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The vocational education leadership behavior of graduates from an 8-week summer workshop who completed a year-long internship was observed to evaluate the training program and to develop an objective formula for selection of personnel for effective leadership roles. The 71 graduates for the school years 1964-67 were compared with the 48 member control group which consisted of men interviewed but not selected for training. The leadership scores obtained indicated that the trained groups improved at a greater rate on the leadership variables measured than the control groups. It was impossible to separate the effects of training from the effects of selection when accounting for this improvement in leadership behavior. A prediction equation was developed which accounted for 25 percent of the variation in the leadership behavior measured. Some study highlights were: (1) An objective and quantitative measure of leadership behavior was obtained, (2) The selection procedure and training program accounted for impressive gains in leadership behavior, and (3) The combination of the 8-week summer workshop and the year-long internship was superior to the internship alone. (DM)

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August 1968

U.S. Department of Health, Education and Welfare
Office of Education
Division of Vocational and Technical Education

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FINAL REPORT

Project No. HR-380
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# A STATE PROGRAM FOR THE DEVELOPMENT OF PERSONS FOR LEADERSHIP ROLES IN THE ADMINISTRATION OF LOCAL PROGRAMS OF VOCATIONAL AND TECHNICAL EDUCATION

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U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
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# SUMMARY

This report deals with the measurement and evaluation of the results of the Michigan Leadership Development Program. Each year since 1964, a group of twenty men has been selected to participate in the Michigan Leadership Development Program. These men were selected to participate in the training program, because they were judged to have high potential as leaders in vocational-technical education. This training program was set up to meet the need for well-rounded and highly qualified leaders in the administration of Michigan's vocational and technical education programs. This training program consisted of an eight-week summer workshop (held on the University of Michigan campus in Ann Arbor), and a year-long internship (done in the trainee's home school district).

The major objective of this research was to measure the leadership behaviors exhibited by both program trainees (experimental groups) and comparable non-trainees (control groups). Both experimental and control groups were asked about their leadership behavior (in the educational setting) during the six-year period from 1963 to 1968.

The secondary objective of this research was to develop an objective formula for the selection of men who would probably show the most effective leadership behavior in future years.

This study followed up the graduates of the training program from the school years 1964-65, 1965-66, and 1966-67. A comparable control group was also followed up for each of these same three years. Men that made up the control groups were interviewed for the Michigan Leadership Development Program, but were not selected for training. During the school year 1964-65 there was a third group in addition to the regular trainee group and the regular control group. This third group was made up of trainees who did not attend the eight-week summer workshop, but did attend the year-long internship phase of the training program. This group was used to specifically examine the relative merits of the summer workshop part of the training program.

In order to obtain a Leadership Score for each of the one hundred and nineteen (119) subjects used in this study, five different variables were used. The three variables that covered the formal aspects of leadership were: (1) the Position Score, (2) the Time Spent in Administrative Duties, and (3) the Functions Score. The two variables used to measure the qualitative aspects of leader-

ship were: (1) the Vocational-Technical Role Score, and (2) the Agent of Change Score. Information about each of these five variables (except Functions Score) was also obtained from both the experimental and control groups for each year from 1963 to 1968.

The results obtained showed that the groups trained in the Michigan Leadership Development Program improved significantly (in the years following training) on the leadership variables being measured. This improvement of the trained groups was shown to contrast with a much slower rate of improvement by the non-trained (control) groups. It was impossible to separate the effects of training from the effects of selection when accounting for this improvement in leadership behavior (by the trained groups). The combination of selection and training has accounted for obvious improvements in leadership behavior for the trained groups. The average Leadership Score obtained by each of the training groups was higher than any of the average Leadership Scores obtained by control groups.

The results obtained on the selection problem showed a prediction equation which compared favorably with the actual selection procedure being used. When this prediction equation (multiple regression equation) was cross-validated using the most recent group of trainees and their controls, the initial multiple selection of .68 only shrank to a .51 correlation. The strength of the prediction equation also showed a higher percentage of successful predictions being made by it than by the actual selection procedures already being used.

The highlights of this study are:

1. An objective and quantitative measure of leadership behavior was obtained.

2. The Michigan Leadership Development Program and the selection procedure (taken together) have accounted for impressive gains in leadership behavior.

3. The eight-week summer workshop and the year-long internship have been shown to be superior to the internship alone.

Recommendations for further action are:

1. Future projects dealing with educational leadership should collect, at the start of the training program, objective quantifiable measures of the behavior which is expected to change as a result of training.

2. Applicants should be randomly assigned to experimental and

control groups so that the effects of the training program can be separated from the selection effects.

# CHAPTER I

## INTRODUCTION

Two out of every three youths in the high schools and community colleges in the United States need some type of specialized education to help them make the transition from school to job. Through the Vocational Education Act of 1963, programs and services can be improved and new programs developed to help these youths. The development of dynamic and functional programs depends to a large extent upon the availability of qualified educational leadership in local school districts, intermediate school districts, and in high schools and community colleges operated by such districts.

There is, in Michigan as elsewhere throughout the United States, a critical shortage of qualified persons to fill leadership positions in vocational and technical education. During the past few years, The University of Michigan has received a growing number of requests to nominate persons for leadership positions; these requests come from local school districts seeking individuals to serve as directors of vocational education, from intermediate school districts seeking consultants of vocational and technical education, and from community colleges searching for men to develop and direct occupationally-oriented programs. Perhaps the most significant development comes from the comprehensive high school; many principals of such schools in Michigan are interested in having an assistant who could provide leadership for the development of a total program for employment-bound youth (Wenrich and Ollenberger, 1963).

The purpose of this first year pilot program, therefore, was to develop a program for the preparation of persons to be employed in any of the aforementioned positions. It was assumed that a person in any one of these administrative positions would need to be broadly educated, and any composite job description for these positions would most certainly include the following areas: school curriculum, administration, and organization; vocational education programs and practices, past, present, and projected; legislation affecting vocational-technical education; survey, follow-up, job analysis, and community labor forecast techniques; personnel and public relations techniques; recognized factors affecting leadership, and personal skills necessary for effective leadership. The problem was to identify and select persons in Michigan with a background in one of the vocational and technical fields with high leadership potential and to prepare them as effectively as possible to satisfy the requirements of a job specification encompassing such a diverse array of skills

and areas of knowledge. The President's Panel of Consultants on Vocational Education (United States Office of Education, 1963) has commented on the importance of leadership and need for leadership development.

> The leadership of vocational education will determine both its quality and effectiveness. In a rapidly changing world, this leadership must be dynamic and forward-looking able to adapt its thinking to the constantly changing situation which it faces. Capable leadership is always in short supply, especially in the new fields.
>
> Proposed expansion of vocational education programs intensifies the need for leadership development. Special attention should be given to the development of highly qualified professional personnel in the many facets of vocational education. The task is large and will require measures considerably beyond the facilities now provided. Professional staffs at universities that provide leadership training will have to be enlarged. Recruitment of candidates for leadership training will have to be expanded and incentives provided in the form of fellowships or other stipends to make it possible for acceptable candidates to undertake the training needed. In-service opportunities for leadership growth should be made available.

In the past, persons have moved into such leadership positions in vocational-technical education with little or no special preparation. The common pattern of educational preparation of vocational personnel in our public schools is one of early specialization. Most teachers are recruited into the profession on the basis of their interest and technical competence in a particular trade or other occupation, and with a minimal professional and general education. Among those so recruited are many able individuals who rise to leadership positions, frequently without the opportunity to acquire an understanding of the nature of our society and its needs. They need help in gaining an understanding of the <u>total</u> educational enterprise and the social and economic conditions of our society. They also need to develop the skills of an effective educational leader.

In view of this critical and expanding problem, The University of Michigan established a leadership development program. This program was officially launched in December of 1963 after a grant for the initial phase was secured from the Michigan State Board of Control for Vocational Education. The Carnegie Corporation of New York provided funds for scholarships for the twenty members of the 1964 summer workshop. The original allocation of funds was for a one-year program. Since not all funds allocated were expended during the first

year, authorization was given by the Michigan State Board to use the balance to continue the project a second year. In 1966, a grant from the United States Office of Education made possible the continuation of the program for another three years.

## A. HISTORICAL PERSPECTIVE AND REVIEW

Interest in the phenomenon of leadership is not a recent development; historically speaking, it is as old as civilization itself. There are radical differences in outlook, however. Ancient societies asserted leadership to be of divine origin (e.g., the Babylonians, Persians, and Egyptians). Even the Greeks, and later the Romans, viewed greatness as a sign of favor from the gods. The Judaic tradition fostered a Messianic-charismatic notion of leadership, as is evidenced in their understanding of the leadership of Abraham, Moses, David, and the Maccabees; that Christianity and other newer religions nourished this theocentric perspective can be seen in the examples of Constantine, Charles Martel, Charlemagne, Richard the Lionhearted and Mohammed. It was not until the eighteenth century that the validity and practicality of such an orientation began to be questioned. At this point, novelists, philosophers, dramatists, and others turned the light of inquiry on man himself; human behavior, including the quality of leadership, was subject to a great deal of scrutiny and speculation. Although this was an improvement over the theological outlook, this "armchair" psychology made little significant lasting contribution to understanding the dynamics of leadership behavior. The scientific study of leadership had to await the development of psychology as an empirical science; only after the groundwork had been laid by men like Galton, Binet, Watson, Spearman, Fisher, and Thorndike could a truly scientific investigation of the phenomenon of leadership be initiated. The study of educational leadership was to lag even further behind.

It would not be inappropriate to give William James (1880) credit for the first American essay on the psychology of leadership. Although written in a philosophical or speculative tone, James seasoned his "armchair" psychology with some acute observations and questions. Twenty years were to pass before the next noteworthy articles appeared (Terman, 1904; Mumford, 1906). Fourteen years and a world war then intervened before another significant contribution appeared.

Immediately following the war, a rash of studies concerning leadership were conducted. Stimulated perhaps by war experiences and other intellectual moments, the social sciences were beginning to come of age. Sociological, anthropological, and psychological analysis of leadership flooded the journals and bookstands (Andrews, 1920; Bernard, 1928; Thrasher, 1927; and Cowley, 1928). Nor did research

seem to be adversely affected by the Depression. Moore (1932), Baldwin (1932), Clem and Dodge (1933), and Garrison (1933) contributed to the ever-growing stream of literature. In 1933 when Smith and Krueger completed their summary of the literature, they listed one hundred twenty-one items in the bibliography, almost all of which had been written after the war.

Interest in leadership continued to increase throughout the thirties, focused very much on the youth of the country, from college students to pre-schoolers. This concern with the nation's youth is not difficult to understand in light of what was happening in pre-war Germany, nor was it restricted to the continental United States (Meerlo, 1934; Buttergeit, 1932; Zillig, 1933; and Popa, 1935). The greatest single contribution to the study of leadership deriving from this era was that of Lewin and Lippitt (1938), which, like so many of Lewin's other studies, pointed to new horizons and dimensions of leadership to be studied, and provided new and unique experimental designs to achieve this goal. This was perhaps the last significant contribution to the study of leadership before World War II curtailed most research efforts.

The era following World War II was a time of phenomenal growth and prosperity, and ever-increasing social complexity. Business and industry were mushrooming, and labor unions were expanding and flourishing. Veterans of the war were returning to college in unprecedented numbers, due in part, no doubt, to the GI Bill. This tremendous expansion would eventually require enormous numbers of trained personnel, and the subsequent demand for leaders is not difficult to explain. A few articles had appeared before or during the war (McGregor, 1944; Barnard, 1938) indicating industry's concern with leadership and leadership training. Immediately following the war, their concern was much more apparent (Browne, 1949 and 1950; Barnard, 1948 and 1951; American Management Association, 1948 and 1949). Backed in many cases by government funds and military interest, leadership research at colleges and universities multiplied. Bass (1949) wrote the first of his more than forty books or articles on the subject, with some suggestions for refining the means to study this rather elusive quality. From the work of Hemphill (1950a; and b) and Stogdill (1950, 1951) was to evolve the Leadership Behavior Description Questionnaire (Stogdill, 1957). White and Lippitt (1953) performed their classical experiment on authoritarian-equalitarian-laissez-faire groups, echoing the earlier study of Lewin and Lippitt (1938).

No sign of abatement was evident in the second half of the decade; there was, however, evidence of a new and growing interest in educational leadership, particularly as it pertained to educational administration. Prior to this, many books and articles had been written concerning educational administration, but, as Wenrich (1967)

pointed out:

> It should not be assumed that there is a one-to-one relationship between leadership and administration. We are concerned with leadership in large formal organizations called schools; not all leaders in such organizations are in administrative and/or supervisory positions. Conversely, not all persons in administrative and/or supervisory positions are necessarily leaders. (p. 6)

Hagman and Swartz (1955) were among the first to mirror this interest of education in leadership, but others (French, Hull, and Dobbs, 1957; Mort, 1957; Morphet, Johns, and Reller, 1959) quickly followed suit. Shartle (1956) and Selznick (1957) made outstanding contributions. Halpin (1956 and 1958), following in the tradition of Stogdill, focused attention on the behavior of leaders. Tannenbaum, Weschler, and Massarik (1961) also provided more empirical bases for understanding leadership behavior. Two other extensive research projects were initiated in the closing moments of the 50's and the early 60's which were indicative of the interest in educational leadership (Hemphill, Griffiths, and Fredrickson, 1962; Gross and Herriott, 1965). Saunders, Phillips, and Johnson (1966) and Halpin (1966) have made the most recent significant contributions to this field. Anyone planning on conducting research concerning educational leadership should also consider Griffiths (1964) a necessary prerequisite.

## B. THE CONCEPT OF LEADERSHIP

Leadership has been defined in vague and nebulous terms. Webster's New International Dictionary (1957) defines a leader as "a person or animal that goes before to guide or show the way, or one who precedes or directs in some action, opinion or movement." Ordway Tead, the author of The Art of Leadership (1935) states in the Encyclopedia Britannica (1957) that leadership is ". . . the exercising of influence over others on behalf of the leader's purposes, aims, or goals. . . Leadership in its deeper meaning has the more difficult task of being concerned with what the follower should want, may come to want, or be brought to want in terms of his own aims as projected against the common good."

Cartwright and Zander (1953) point out some of the inherent difficulties in attempting to define leadership:

> To some, leadership is a property of a group, while to others, it is a characteristic of an individual. To those who emphasize the group, leadership may be synonymous with prestige, with the holding of an office, or with the

> performance of activities important to the group. To those who stress the individual, however, leadership may mean the possession of certain personality characteristics such as dominance, ego-control, aggressiveness, or freedom from paranoid tendencies, or it may mean the possession of certain physical characteristics such as tallness or an impressive physiognomy.

A brief review of leadership literature will yield some indication of the plethora of definitions and conceptions with which the notion of leadership is plagued. Such diversity, although intriguing, does not contribute substantially to the ability to investigate empirically this phenomenon and obtain consistent results, which, in turn, raises questions concerning the validity and generalizability of any experimental evidence. Many of the apparently contradictory research results are caused by this variation in definition and criteria. By far, the most publicized of the research efforts concerns the attempt to identify leaders by personality traits (Cattell and Stice, 1953a; 1953b). Critics of this approach (Bird, 1940; Stogdill, 1948) have pointed to past failures, concluding that there is no value in continuing this futile effort. Nevertheless, most of these critics fail to point out two crucial failings of past leadership studies:

1. Very few, if any, of these studies use the same personality test to assess personality characteristics. Moreover, even when they do, they often choose one which is antiquated and not psychometrically sound.

2. The criteria used vary from study to study, and more often than not, are subjective judgments or supervisor's ratings. Without denying that there is some basis for subjective judgment, this is still a poor criterion. N. B. The criterion problem is one which plagues the investigation of any complex trait (e.g., creativity).

In short, these experiments, although seemingly inconsistent and contradictory, do not necessarily demand the conclusion that it is impossible to identify a leader by personality assessment. Norman (1963; 1965) has created several new personality measures and achieved outstanding success in identifying potential leaders as well as detecting "fakers." Concerning the tendency to disparage leadership-personality research, Darley (in Petrullo and Bass, 1961, p. 362) says:

> . . . it has become fashionable to define leadership as related to situations and as relatively uninfluenced by individual traits. We cannot, I think, brush under the rug the problem of leadership traits as easily as we

have seemed to do in recent years.

Gross and Herriot (1965) indicate a stance which has probably come to represent that of most of the researchers in the field of leadership:

> Although we, like most present-day students of leadership, reject a unitary trait theory of leadership, we do not reject the possibility that, in certain situational contexts, specific traits of individuals may be associated with their leadership.

Closely allied with the "personality-trait" theory of leadership is the "styles of leadership" approach. The most persistent of these polarization-dichotomy approaches is the authoritarian-democratic classification of White and Lippitt (1953). It is not, however, the only one; Bass (1960) lists approximately twenty such polar categories. The tremendous weakness inherent in such an approach is that to admit to more than forty kinds of leadership, each with varying degrees of effectiveness, is to confuse the problem of identification and selection—not to mention training—beyond redemption.

Another approach which has become popular in the wake of the renewed behavioral emphasis and S-R orientation is the "situational" approach to leadership. One of the major benefits accruing from this approach has been the emphasis on leadership acts, which has resulted in a more positive, objective criterion for leadership assessment (this approach was used in this study). The basis for many of the measures used in this study has been the work of Stogdill and his associates.

There are several other approaches to studying leadership; we have cited only those dominant and recurring themes evidenced in the literature. Wenrich and Hodges (1966) offer a more complete analysis.

Without a doubt, in almost any situation, the leader needs certain traits; he is motivated by personal drives and external forces; he performs certain functions indigenous to his position; he acts in a particular way according to the character of the group; and, finally, he shares certain leadership tasks with the members of the group. Thus, he applies all the aforementioned approaches to some extent.

## C. PROBLEM AND RESOLUTION

How, then, do we identify and select educational leaders? Although the research on the problem of identification is relatively limited, it does point out that educators with administrative and leadership potential are not readily identifiable. Information on how to recruit and further develop this talent is also scarce. One

study points out, however, that:

> . . . the personal qualities of educational leaders, their attitudes, their purposes, and their relationships with other people. . .were more closely correlated to success on the job than were technical information, technical skills, and even intelligence as measured by traditional intelligence tests (Meece and Eckel, 1961).

In regard to criteria for selection of persons for leadership roles, it has been pointed out already that while much research has been done in an effort to determine the nature of educational leadership and the qualities and competencies of successful leaders in educational positions, most investigations have dealt with the positions and roles of superintendents of schools, school supervisors, and school principals. No study was found dealing directly with leadership in administrative and supervisory positions in the field of vocational and technical education. However, the studies which have been done in relation to criteria for selection of educational leaders in other fields have been invaluable.

In the research on leadership in other disciplines (non-educational), the trend has continued undiminished toward regarding leadership, not as a static collection of traits, but as a complex and dynamic involvement of leader, followers, and situation. This trend reinforces a basic postulate of The University of Michigan Leadership Development Program: that leadership training, in order to be effective, must be as broad and interdisciplinary as circumstances permit.

## D. A PROSPECTUS

In the winter of 1966, attempts were made to commence a pilot follow-up on the men who had been through the Leadership Development Program and the groups of controls who had been invited to Ann Arbor for testing and interviewing, but had had no further connection with the Leadership Development Program. The main purpose of this pilot study was to obtain knowledge for a more comprehensive study that would be completed at a later date, and hopefully acquire a meaningful quantitative measure of leadership. Once this had been accomplished, it remained to initiate the complete follow-up on all available groups.

The present follow-up done in 1968, covers Leadership Development Program graduates of the first three years and includes approximately one-hundred twenty (120) subjects, including all the men who have been through the program in the years 1964-65, 1965-66, and 1966-67, and comparable control groups for each of those years. For

a complete description of the groups, refer to the following section (Chapter II). The hypothesis underlying the research efforts was that those men who had had the benefit of training would score significantly higher on the Leadership Score (see Chapter II) than the control groups with which they were compared. Furthermore, it was hypothesized that differences would begin to appear within one year after training.

The second part of the research was a concerted effort to improve selection procedures and prediction of leadership through a multiple-regression equation. The results are stated in Chapter III.

## CHAPTER II

## METHODOLOGY

This report presents the results of a follow-up study of the participants in the Leadership Development Program (LDP) and their respective control groups which was conducted in March of 1968. The major emphases of this study are (1) an evaluation of the overall effectiveness of the program and (2) an examination of prediction data in order to refine the basis for selection of trainees. Although a thorough study of the effects of the program should extend over a period of more years than have elapsed since the first group completed the program, sufficient data are available for an accurate assessment at this time. Each of the groups of former participants in various phases of the LDP will be referred to throughout the remainder of this report only by its identification letter. The description of these groups is as follows:

Group A (N-20) This group of men had both phases of the LDP (summer workshop and year-long internship) during 1964-65.

Group B (N-20) This group had only the year-long internship phase of the program during 1964-65.

Group $C_1$ (N-18) This group of men applied for the LDP in 1964-65 and were invited to Ann Arbor for testing and interviewing, but had no other involvement with the LDP in 1964-65, or subsequently. N.B. This is NOT the control group used in the pil t study.

Group D (N-19) This group of men had both phases of the LDP in 1965-66.

Group $C_2$ (N-15) This group of men applied for the LDP in 1965-66 and were invited to Ann Arbor for testing and interviewing, but had no further connection with the program during 1965-66. or subsequently.

Group E (N-20) This group had both phases of the program during 1966-67.

Group $C_3$ (N-15) This group of men applied for the LDP in 1966-67 and were invited to Ann Arbor for testing and interviewing, but had no further involvement with the LDP in 1966-67, or subsequently.

Data were collected on the members of all these groups at the time of their application to the Leadership Development Program, and again in the follow-up questionnaire of March 1968. At the time this latter information was obtained, groups A, B, and $C_1$ had had three years of experience since the completion of the training; groups D and $C_2$ had had two years of experience; and groups E and $C_3$ had had one.

The control groups used throughout this study were not equated with their respective experimental groups on the basis of random selection. The men making up the three control groups ($C_1$, $C_2$ and $C_3$) used in this study were judged as the "next best" group of men that had applied for training each year. They were tested and interviewed in Ann Arbor (see Appendix A, pp. 46-53), but were not selected to be trainees. Because of this experimental methodology, the various positive gains of the experimental groups as compared to the control groups must be understood to result from a combination of selection and treatment.

The selection of men for the two different experimental groups (A and B) used during 1964-65 was based on random selection. Because of this methodology it has been possible to make the important comparisons between the progress of Group A (summer workshop and year-long internship) and the progress of Group B (only the year-long internship).

To help the reader understand the nature of the training (the experimental treatment), a concise but comprehensive description of the Michigan Leadership Development Program, and the selection procedure is given in Appendix A. Also included is a list of the information collected at the time of application and follow-up which accounts for the possible predictor variables (see Appendix I, p. 75).

## A. DERIVATION OF THE LEADERSHIP SCORE

In March of 1967, a questionnaire was sent to groups A, B, D, and a control group of men who had been invited to come to Ann Arbor for testing and interviewing in 1964-65, but who had had no further connection with the program, or with subsequent programs. (N. B. This is a <u>completely</u> different group than the $C_1$ referred to in the rest of this report. This group was selected for the pilot study and used <u>ONLY</u> in that study). A sample of the questionnaire was sent

to these men shown in Appendix G (pp. 64-67). Of the seventy-nine forms sent, seventy-eight were completed and returned. These forms were gleaned for information relevant to leadership in the field of vocational and technical education. From a total of approximately thirty criterion variables, six were selected. In the opinions of the researchers and the staff of the Department of Vocational Education and Practical Arts at The University of Michigan, these six best reflected the desirable qualities of a "leader" in vocational-technical education. When subjected to a statistical analysis, these variables showed a consistently high ($r > .35$) intercorrelation among themselves, with a single exception (salary). For a discussion of reasons why salary was not used see page 27. The remaining five variables were designated as follows:

> The POSITION score is based on an individual's title or rank in his school or school system, and the type and size of the institution in which he is employed (Appendix H, pp. 68-69).
>
> TIME SPENT IN ADMINISTRATIVE DUTIES is the measure of the relative proportion of time that the individual functions as other than a teacher (Appendix H, p. 74).
>
> The FUNCTIONS score is based on the frequency and level of functioning in each of the six designated areas (Appendix H, p. 73).
>
> The VOCATIONAL-TECHNICAL ROLE score is an index of the extra-curricular involvement of an individual in vocational-educationally oriented activities (Appendix H, pp. 70-71).
>
> The AGENT OF CHANGE score is an index of the extent to which a man manages to alter the existing structure of the milieu in which he functions relative to vocational-technical education (Appendix H, p. 74).

These then are the five scores which were indicative of leadership as derived from the pilot study. To obtain a single quantitative index of leadership, a simple linear summation was suggested. Due to the disparity of the means in some cases (which would give undue weight to that measure), an alternative plan was adopted. Each individual's raw score on each of the five measures was converted to a T-score. The average of these T-scores yielded a Leadership Score for each individual. Hereafter when reference is made to the Leadership Score, it is this mean T-score that is indicated. Taking a cue from Halpin (1966), it was also decided to break down the Leadership Score into a FORMAL and a QUALITATIVE score. The former score would be based on a person's POSITION score, his FUNCTIONS score, and the amount of time spent in Administration and/or Supervision; the latter, on his VOCATIONAL-TECH-

NICAL ROLE score and his AGENT OF CHANGE score.

Having collected and stored this information, a new questionnaire (see Appendix H, pp. 68-74) was devised which was then sent out in March 1968 to groups A, B, D, E, and sixty control subjects (20 each for 1964-65, 1965-66, 1966-67). One hundred thirty-nine (139) forms were sent out and one hundred nineteen (119) were returned for a response ratio of 85 per cent (see Table I). These forms were separated according to groups, means were obtained, T-scores were computed, and analysis was begun.

TABLE I

BREAKDOWN OF FOLLOW-UP REPORTS SENT AND RETURNED BY GROUPS

| Group | Forms Sent | Forms Required | % Returned |
|---|---|---|---|
| A | 20 | 20 | 100 |
| B | 20 | 17 | 85 |
| $C_1$ | 20 | 18 | 90 |
| D | 19* | 17 | 89 |
| $C_2$ | 20 | 15 | 75 |
| E | 20 | 17 | 85 |
| $C_3$ | 20 | 15 | 75 |
| Totals | 139 | 119 | 85 |

*One person was forced to drop the program and no replacement was found.

B. METHODS OF ANALYSIS

Prior to the actual analysis, it was important to determine precisely what types of analysis would be most beneficial in light of the goals of the study. The two major emphases of the study, as has been mentioned previously, are (1) an evaluation of the overall effectiveness of the program and (2) an examination of the prediction data in order to refine the basis for selecting trainees. The evaluation itself will be approached from several different angles so that a realistic appraisal of the LDP may be made. Included in the analysis are a time series study, analysis of variance and t-tests, and comparisons of percentages of persons in the experimental and control groups who have exhibited significant change since the time of application. The prediction problem is fundamentally one of multiple regression, with a consistency check. Although the fundamental interest lies in the difference between the experimental and control groups,

special attention has been given to the comparison between groups A and B, in order to determine the value of the summer workshop.

# CHAPTER III

## RESULTS

To maintain a conceptual clarity in the presentation of the results and facilitate understanding as much as possible, these results will be presented in several different, appropriately-designed subsections. We remind the reader that each of these approaches is merely another way of viewing the same material. Not all of the analysis will be used for every comparison; rather, they will be used to highlight certain facets of the study and facts obscured or undetected by other analysis.

### A. COMPARISON OVER TIME (GROUPS A, B, $C_1$)

The simplest and perhaps the most beneficial way to begin the analysis is to provide a graphic presentation of the groups over the time period extending from a point one or two years prior to selection to the present. Since more post-training data are avaiable on groups A, B, and control group $C_1$, and since a graph of seven groups over a period of six years would tend to be unwieldy and virtually unreadable, attention will only be concentrated in this section on these three groups. (A following section will be devoted to the performance of all groups over time). Another justification for this selectivity in presentation is the fact that all subsequent comparisons (D with $C_2$ and E with $C_3$) are identical in form to this original one.

As can be observed in Figures 1-5, there is a similar trend in the performance of the groups over all five variables (see Figures 1-5). The Title of Position has been included as a variable of interest, even though it is. to a great extent, a duplication of the Position Score and is not of itself part of the Leadership Score. One component of the Leadership Score that is missing is the Functions Score, which is a relatively new addition to our repertoire. Because this information was not available on this variable over the period of years, it was eliminated from consideration for graphing.

Some observations concerning these graphs will serve as the introduction to the discussion of the interpretation of all the results. It will be noticed that on 3 of the 5 variables (Figures 1, 2, and 5) the Control Group ($C_1$) is higher than one or both of the experimental groups before the training period. As all the charts show, nevertheless, groups A and B pull away from the Control Group $C_1$ as time

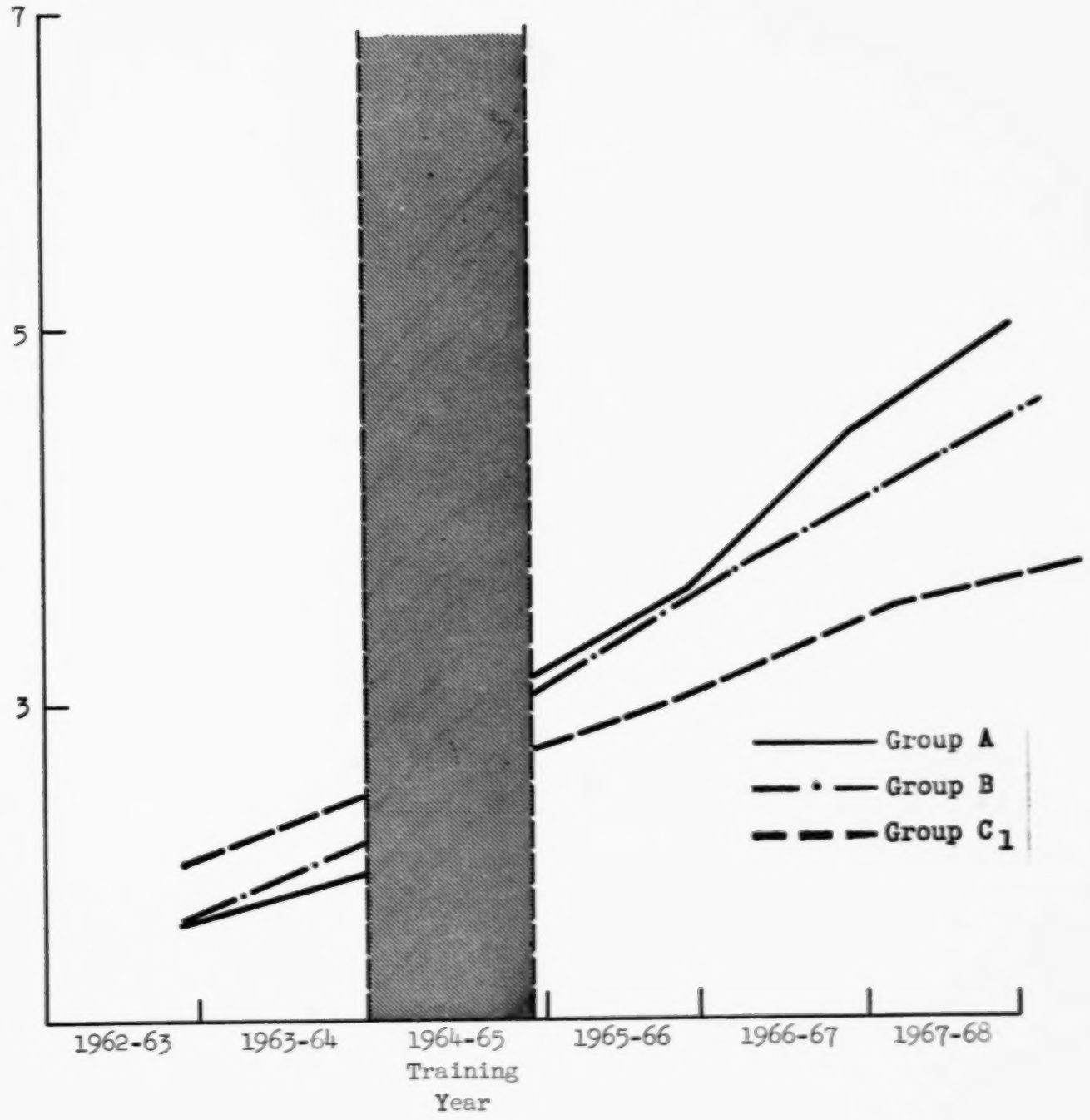


Figure 1. Title of position (Groups A, B, and $C_1$).

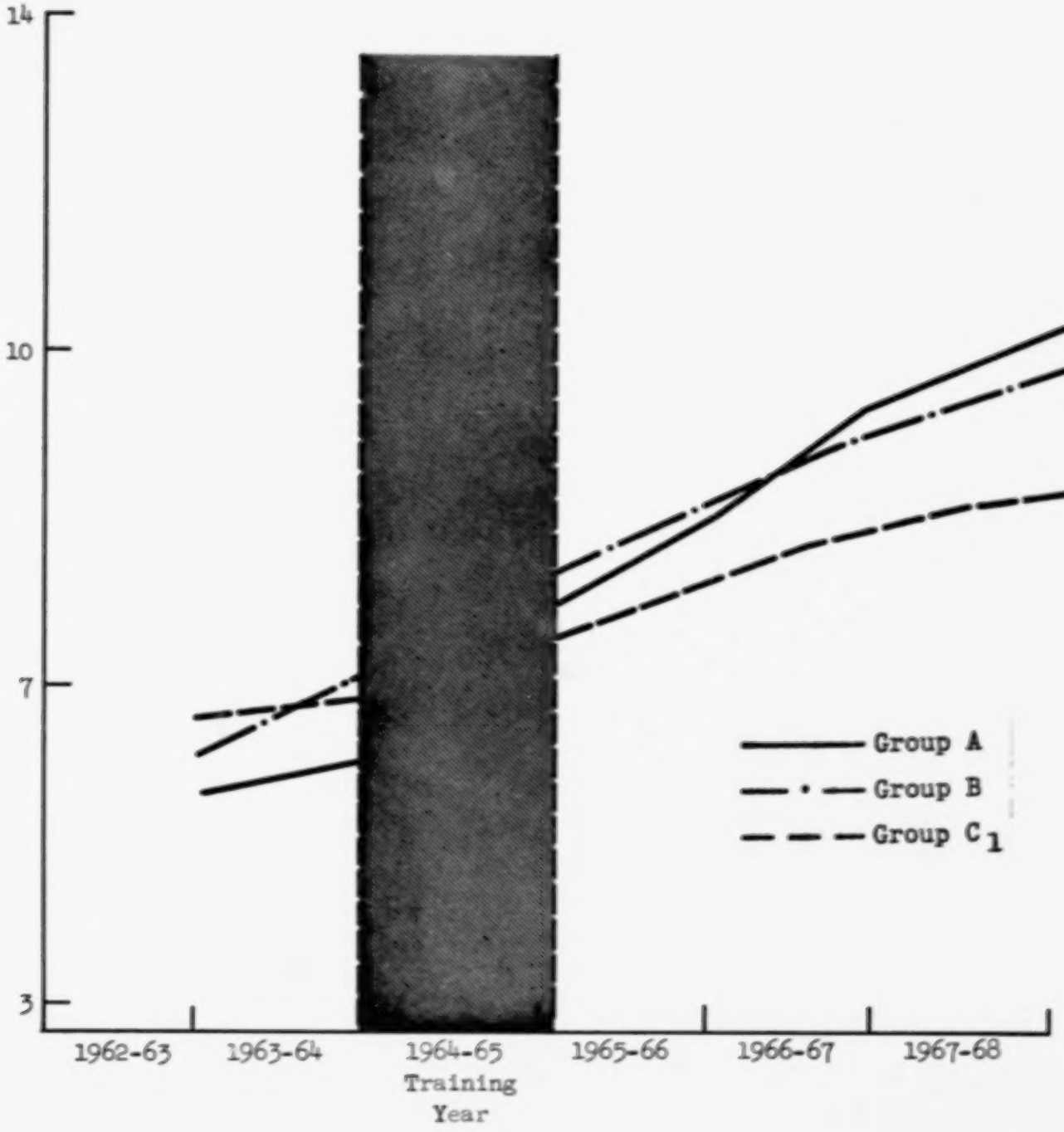


Figure 2. Position score (Groups A, B, and $C_1$).

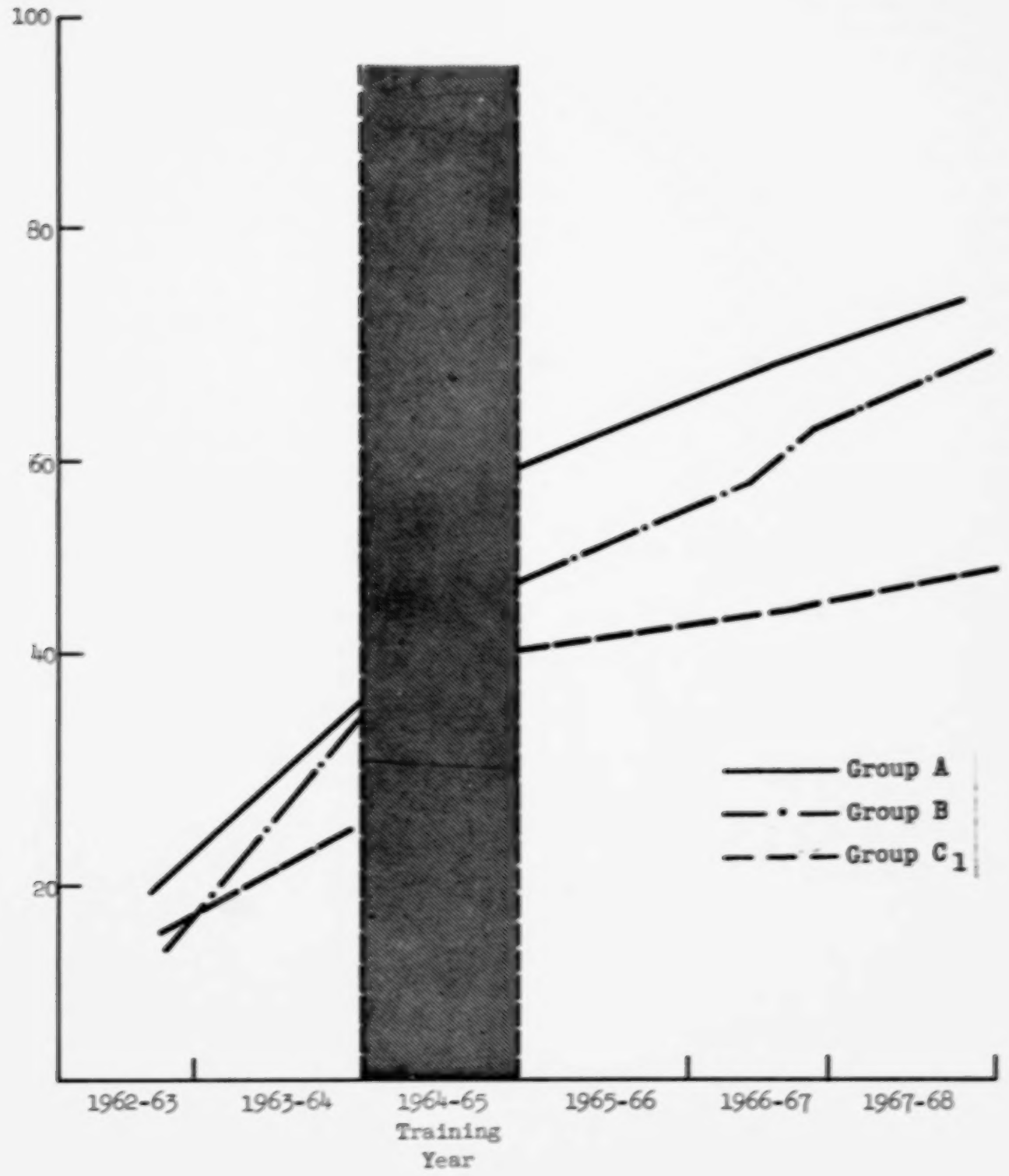


Figure 3. Time spent in administrative duties (Groups A, B, and $C_1$).

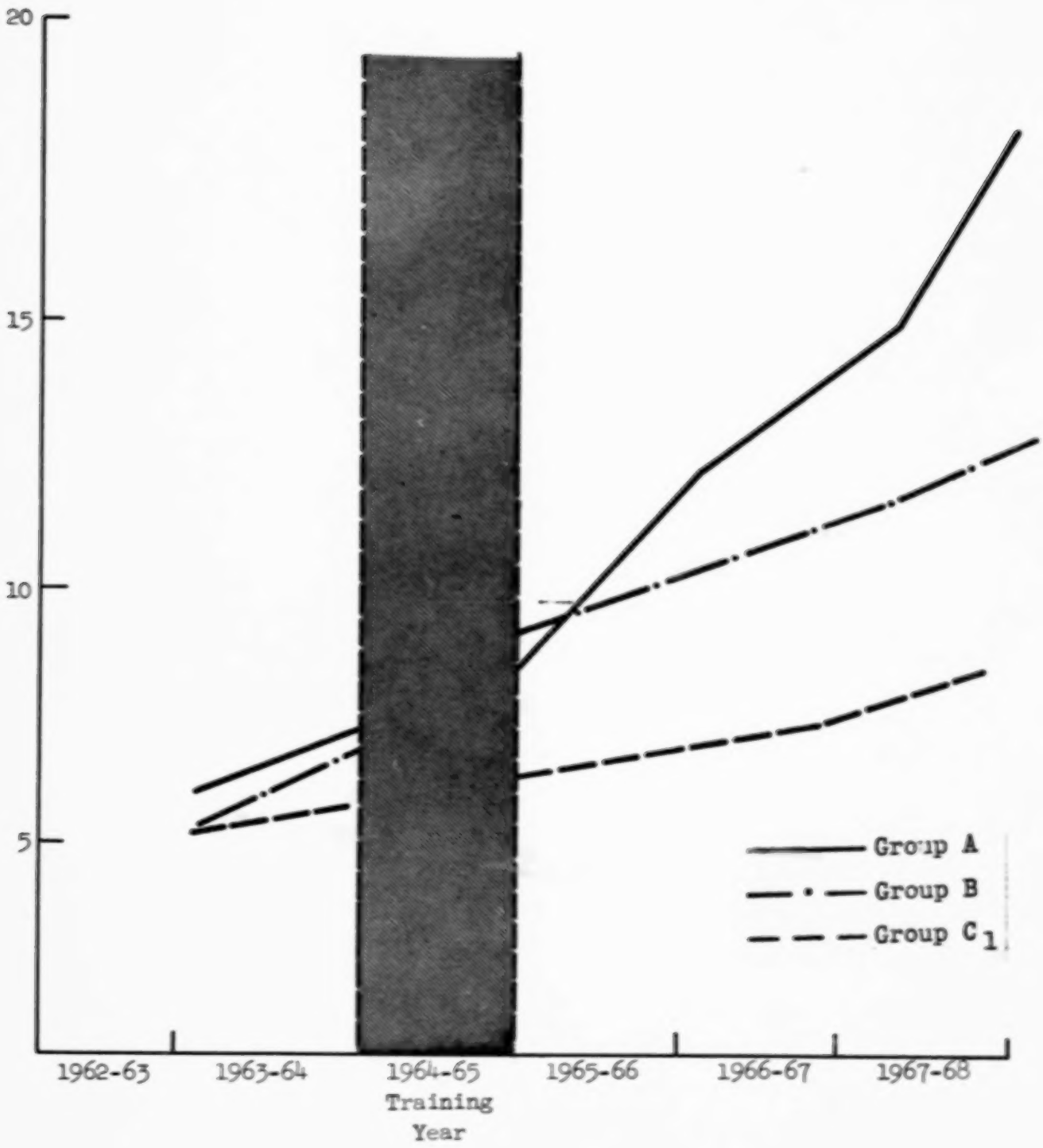


Figure 4. Vocational role score (Groups A, B, and $C_1$).

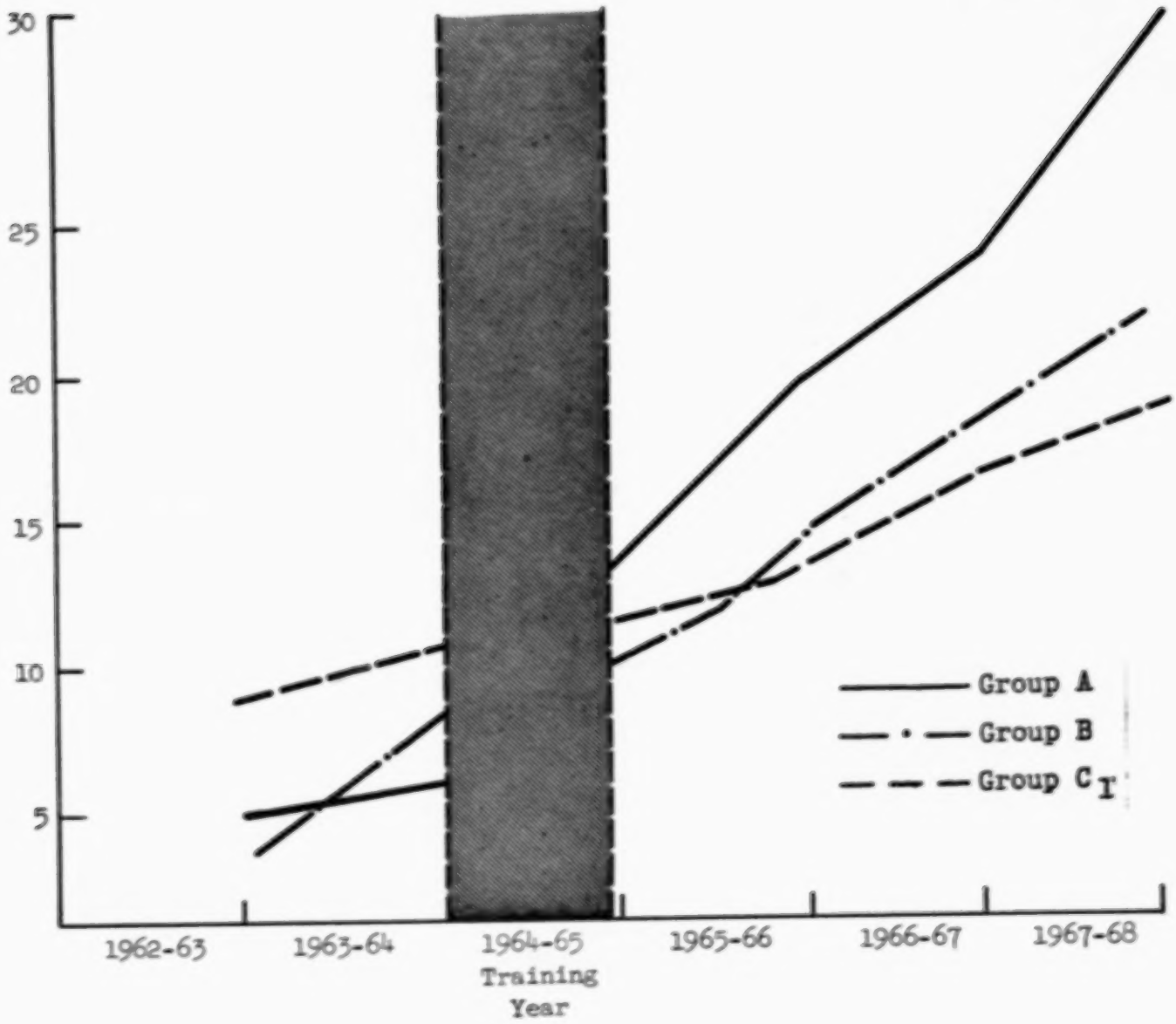


Figure 5. Agent of change score (Groups A, B, and $C_1$).

following training progresses. Assuming that the three groups were equal at the time of selection, these results would clearly indicate the value of the Michigan Leadership Development Program, and statistical analysis could be presented to determine the strength of this effect. However, a question arises relative to the interaction between selection and training (see page 14) which makes it impossible to distinguish between the gains due to selection and the gains due to training.

Of much greater interest at this time, however, is the comparison along all dimensions of the differences between groups A and B. After the initial selection had identified these candidates as the best 40, men were randomly assigned to either group A or group B. This randomization procedure permitted statistical inferences concerning existing differences between the groups to be made with confidence.

Looking again at Figures 1-5, we can see that at the time of selection (pre-training) and again one year later (immediately after training) the two groups were very equal on all the varables. However, as of the school year 1967-68, these groups were unequal on two important measures. These measures were the Vocational-Technical Role Score and the Agent of Change Score. Using an Analysis of Covariance, it was determined that these differences are significant at the .05 and .01 levels, respectively. Since these two scores are those used to calculate the Qualitative Leadership Score (see Chapter II), this has important implications about the value of the summer workshop. A t-test reveals a significant difference in the Qualitative Leadership Scores of the two groups (Table II).

TABLE II

A t-TEST FOR QUALITATIVE LEADERSHIP SCORES BETWEEN GROUP A AND GROUP B

| Group | Mean | S.D. | N | S.E.$_m$ | Difference ($M_A - M_B$) | t |
|---|---|---|---|---|---|---|
| A | 55.75 | 10 | 20 | 1.67 | 5.42 | 3.24 ($p > .01$) |
| B | 50.23 | 10 | 17 | | | |

We attempted to discern a difference in the means of any of the measures of the Formal Leadership Score; however, no statistically significant difference between groups A and B was found. In other words, the increase in Qualitative Leadership Score was due to the summer workshop, while the increase in Formal Leadership Score was

due to the process of being selected as a trainee and the year-long internship.

## B. ANALYSIS BY TRAINING YEAR (ALL GROUPS)

In the previous section, due to a special interest in the comparison of groups A and B, attention was concentrated on the groups from the first year of the LDP (1964-65), with only brief mention made of the other groups. As was previously mentioned, such comparisons were thought superfluous since the same basic trends would be seen. One other fact, which suggested the dubious value of such iterative presentations of similar graphs, is that there is less time elapsed since training for these remaining groups (D has had only two-years experience and E only one) than there was for the original groups; therefore, it is more difficult to ascertain whether sufficient time since training had elapsed for any significant effects to appear. As an alternative, it was decided to compare all the Experimentals and Controls over a six-year period, thereby making comparisons among the different Experimental Groups within themselves and the different Control groups among themselves. Such an approach was deemed of value in light of the different years in which the groups were trained.

Since these men were trained in different years, it was decided to employ a different chronology in comparing them along all the variables. The zero-point for all groups became the year of the actual training. Thus -1 year represents the standing of the men at the time of the selection process, +1 represents the standing immediately following the internship year, etc. Tables III-V show how the groups compare.

TABLE III

COMPARISON OF MEAN TITLE OF POSITION SCORE FOR ALL GROUPS BY TRAINING YEAR

Year Relative to Training Year

| Group | -3 | -2 | -1 | Training Year | +1 | +2 | +3 |
|---|---|---|---|---|---|---|---|
| A | | 1.5 | 1.7 | 2.9 | 3.4 | 4.3 | 4.6 |
| B | | 1.5 | 1.8 | 2.7 | 3.4 | 3.8 | 4.1 |
| $C_1$ | | 1.8 | 2.1 | 2.3 | 2.9 | 3.2 | 3.3 |
| D | 1.8 | 1.8 | 2.1 | 2.7 | 3.8 | 3.9 | |
| $C_2$ | 1.2 | 1.7 | 2.1 | 2.8 | 3.1 | 2.9 | |
| E | 1.1 | 1.7 | 1.9 | 2.8 | 3.3 | | |
| $C_3$ | 1.4 | 1.7 | 1.9 | 1.9 | 2.3 | | |

TABLE IV

MEAN POSITION SCORE FOR ALL GROUPS BY TRAINING YEAR

Year Relative to Training Year

| Group | -3 | -2 | -1 | Training Year | +1 | +2 | +3 |
|---|---|---|---|---|---|---|---|
| A | | 5.7 | 5.9 | 7.7 | 8.4 | 9.7 | 10.1 |
| B | | 6.0 | 6.9 | 7.8 | 8.9 | 9.5 | 9.8 |
| $C_1$ | | 6.3 | 6.7 | 7.1 | 8.2 | 8.6 | 8.8 |
| D | 5.9 | 6.1 | 6.5 | 7.4 | 8.9 | 9.1 | |
| $C_2$ | 5.2 | 6.0 | 7.0 | 7.9 | 8.6 | 8.7 | |
| E | 5.4 | 6.2 | 6.7 | 7.7 | 8.5 | | |
| $C_3$ | 5.5 | 5.9 | 6.3 | 6.2 | 6.6 | | |

TABLE V

MEAN PERCENT OF TIME SPENT IN ADMINISTRATIVE DUTIES FOR ALL GROUPS BY TRAINING YEAR

Year Relative to Training Year

| Group | -3 | -2 | -1 | Training Year | +1 | +2 | +3 |
|---|---|---|---|---|---|---|---|
| A | | 19 | 36 | 60 | 67 | 72 | 75 |
| B | | 14 | 36 | 47 | 57 | 69 | 73 |
| $C_1$ | | 16 | 28 | 42 | 43 | 49 | 43 |
| D | 22 | 23 | 29 | 40 | 60 | 69 | |
| $C_2$ | 10 | 23 | 27 | 38 | 44 | 48 | |
| E | 12 | 19 | 36 | 54 | 61 | | |
| $C_3$ | 6 | 9 | 15 | 20 | 25 | | |

It is relatively easy to see that combining the groups and making an overall analysis or comparison of the Experimental and Control Groups does not appreciably distort the true nature of what happened. At the same time, there are certain inherent advantages to such a combining procedure:

1. By doing so, we obtain a much larger N to work with, giving more credence to the results obtained.

2. If the trend shown in Figures 1-5 were representative only of those groups, the individuals in the other groups would tend to flatten the overall curve in such a comparison. Figures 6-10 are the graphic result of this combination

As analysis of these figures shows, the trend is practically identical with that shown in Figures 1-5. The Controls are actually better than the Experimentals on three of the five crucial variables before the training period. Even though this difference is not significant (there are no significant differences in either direction at the time of selection), it again indicates the apparent equality of the Experimental and Control groups. And again, as before, the Experimental groups improved faster than the Control groups with the passage of time.

A comparison of the salaries of the Experimentals and Controls is illustrated in Figure 11. The curves are so similar as to be identical. This figure partly explains why salary was eliminated as a part of the Leadership Score, even though it had previously been used as one of our criteria. The other fact that dissuaded us from using salary as a criterion of leadership was that salaries from any given year correlated with salaries from any other given year about .85. This meant that more than 70% of the reliable variance in salary figures is accounted for by whatever salary the individual was making previously.

In brief, the time series analysis according to training year indicates that the trend shown by groups A, B, and $C_1$ is repeated, for the most part, by the other groups in different training years. In every case, the Experimental and Control groups are apparently equal at the time of selection, but beginning immediately after training, the Experimental groups move away. Due to a selection bias (see page 14) it is difficult to determine, with any degree of confidence, what proportion, if any, of this improvement is due to the selection procedure and what is due to the training program. It is obvious, however, that selection and training (taken together) have accounted for marked improvements in the leadership behavior of the Experimental (trained) groups, especially as compared to the leadership behavior of the Control (non-trained) groups.

A comparison of the Leadership Scores, which are based on 1968 leadership behavior (see page 14), also shows the Experimental groups scoring higher than the Control groups. When the Leadership Scores of the groups are compared by training year (see Appendix J, p. 76), <u>all</u> Experimental groups obtained higher average Leadership Scores than <u>any</u> of the Control groups. Those groups that had only completed training one year before follow-up were not yet statistically different.

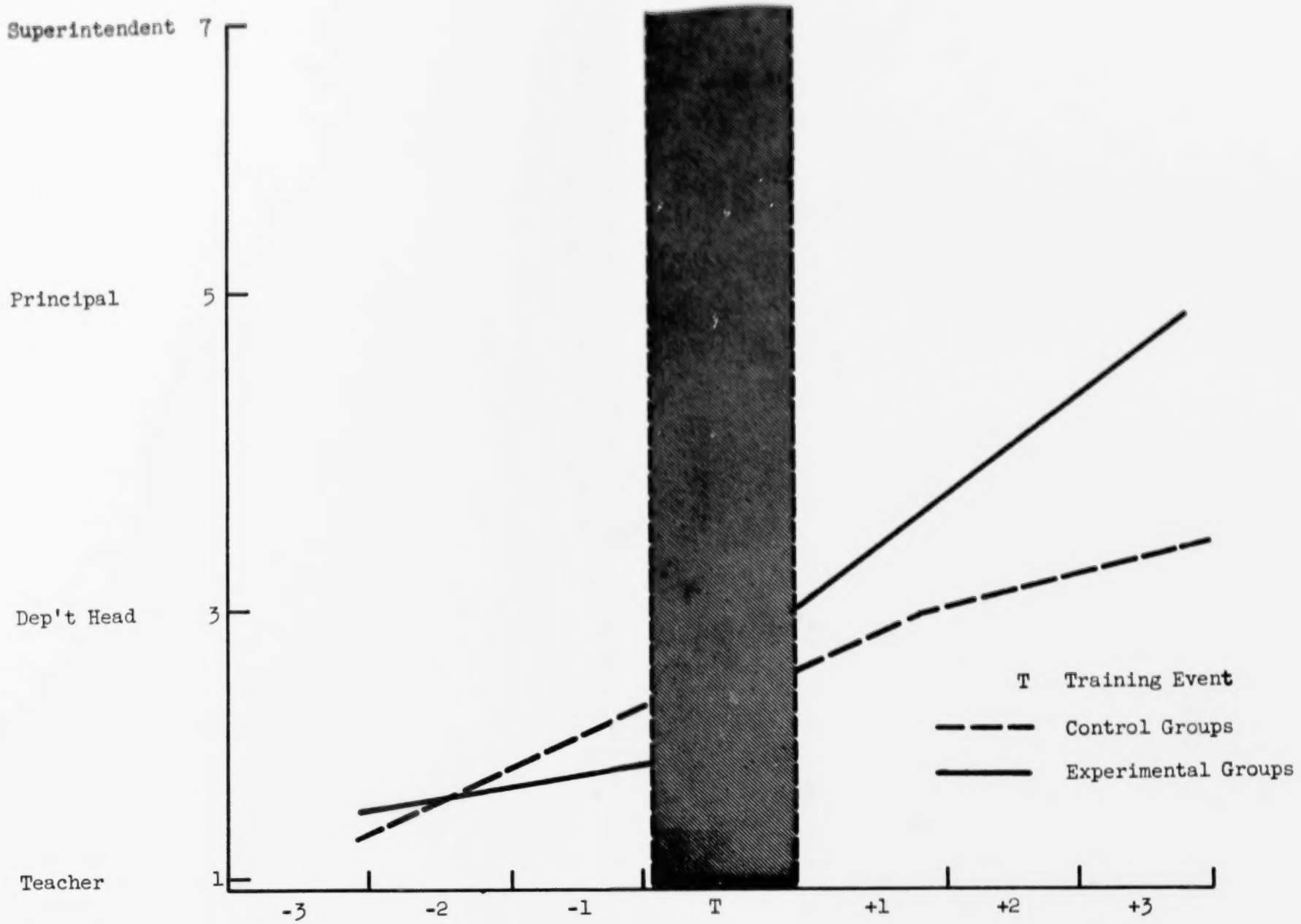


Figure 6. Title of position (by training year).

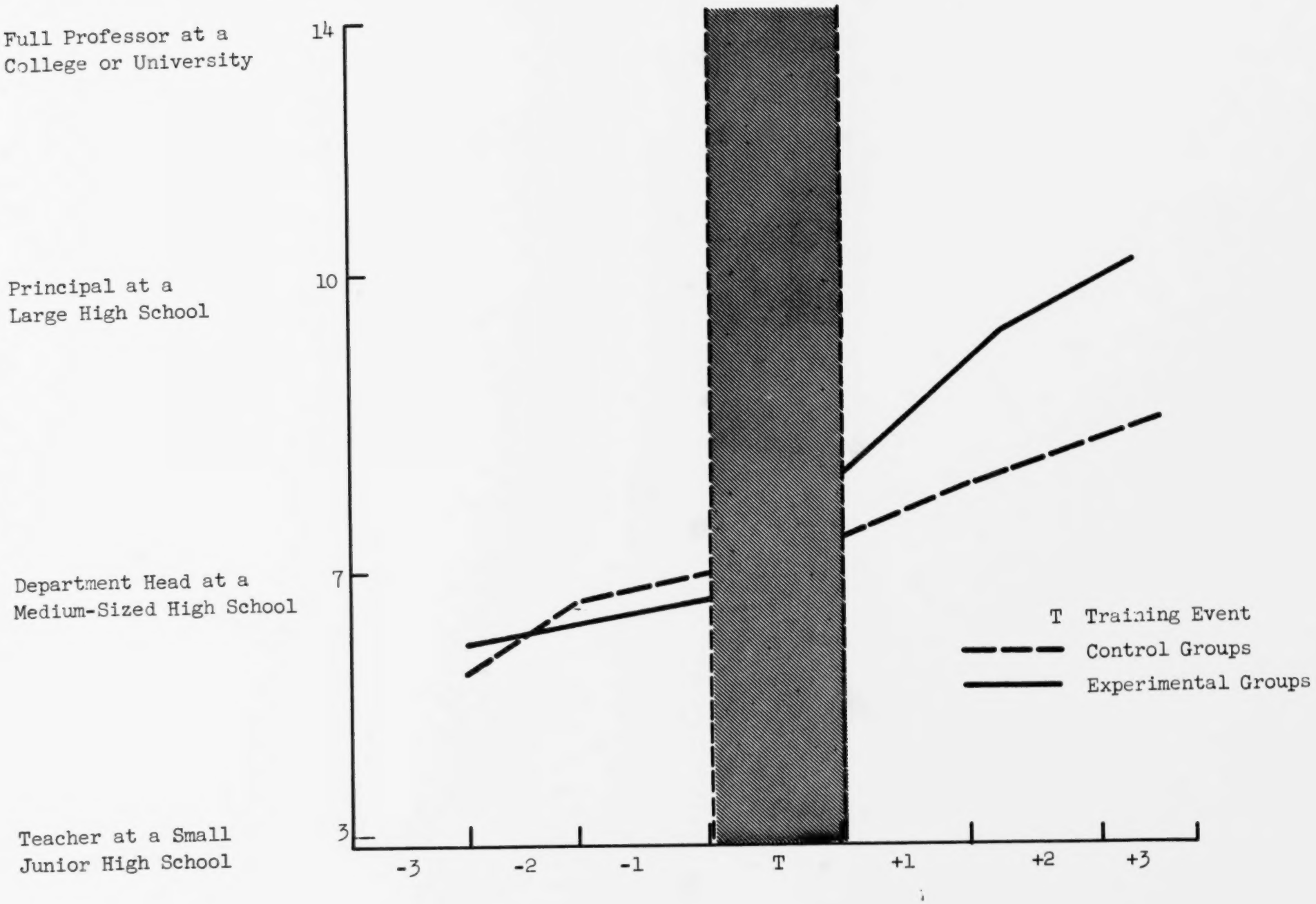


**Figure 7. Position score (by training year).**

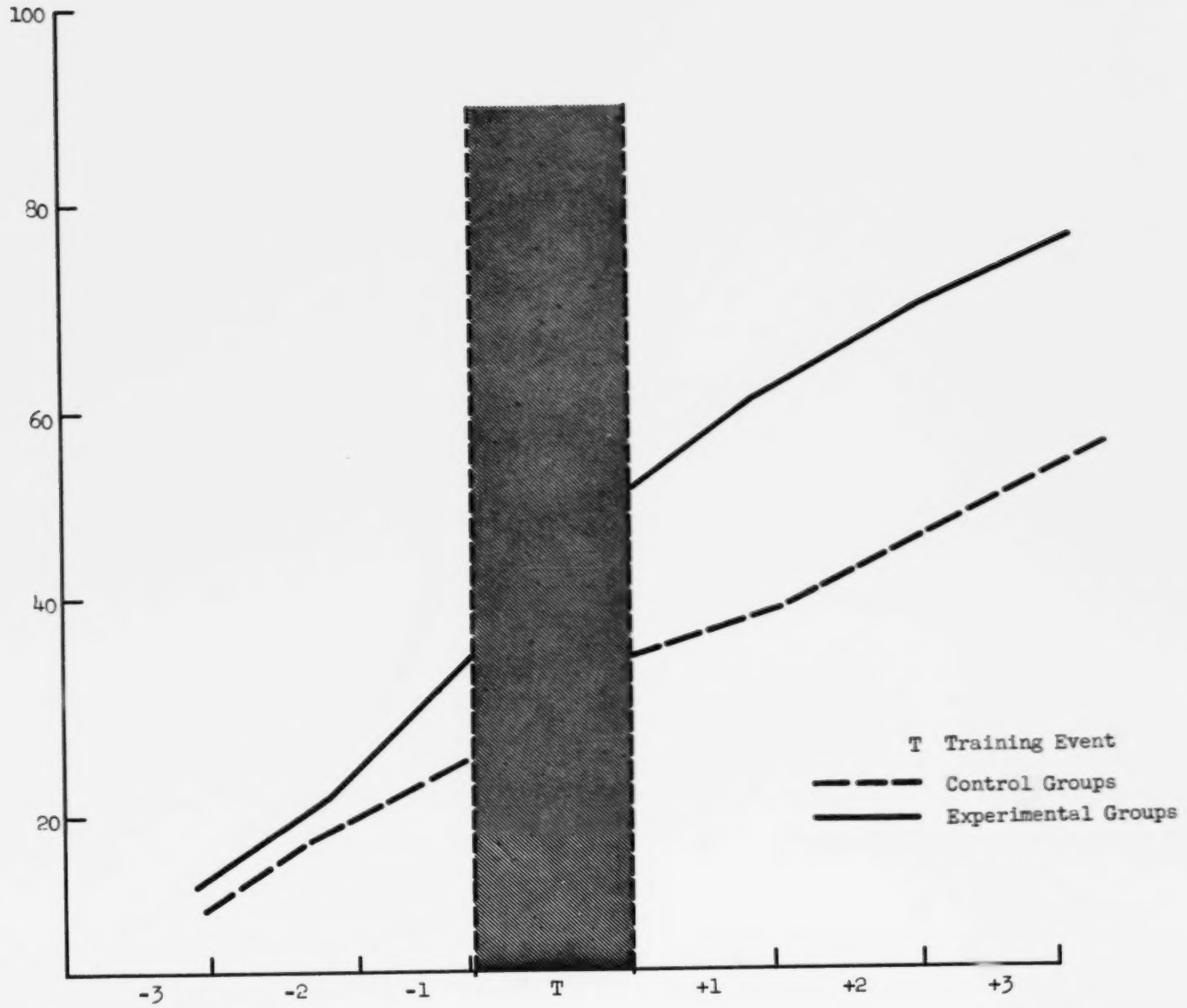


Figure 8. Percent of time spent on administration and/or supervision (by training year).

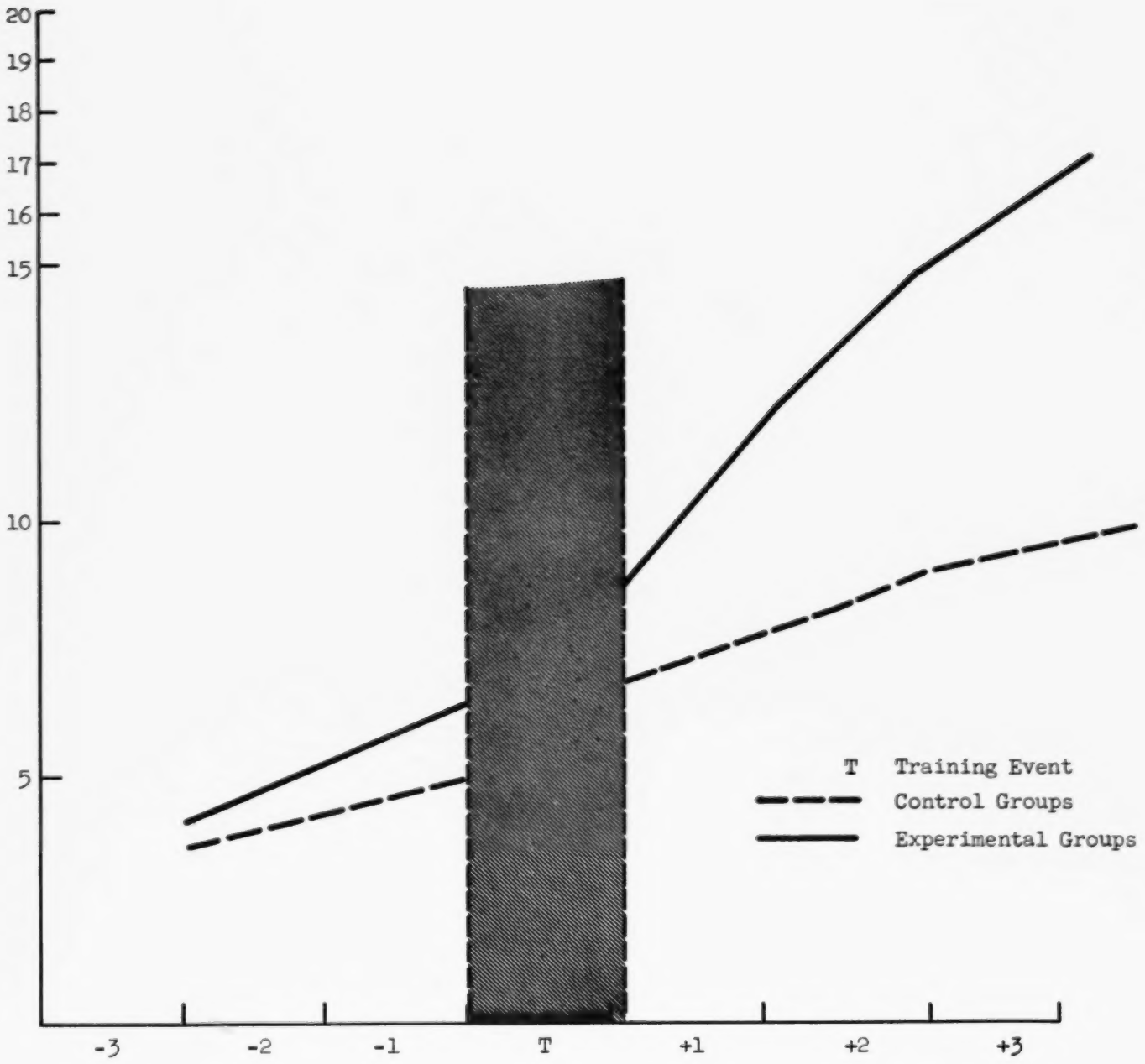


Figure 9. Vocational-technical role score (by training year).

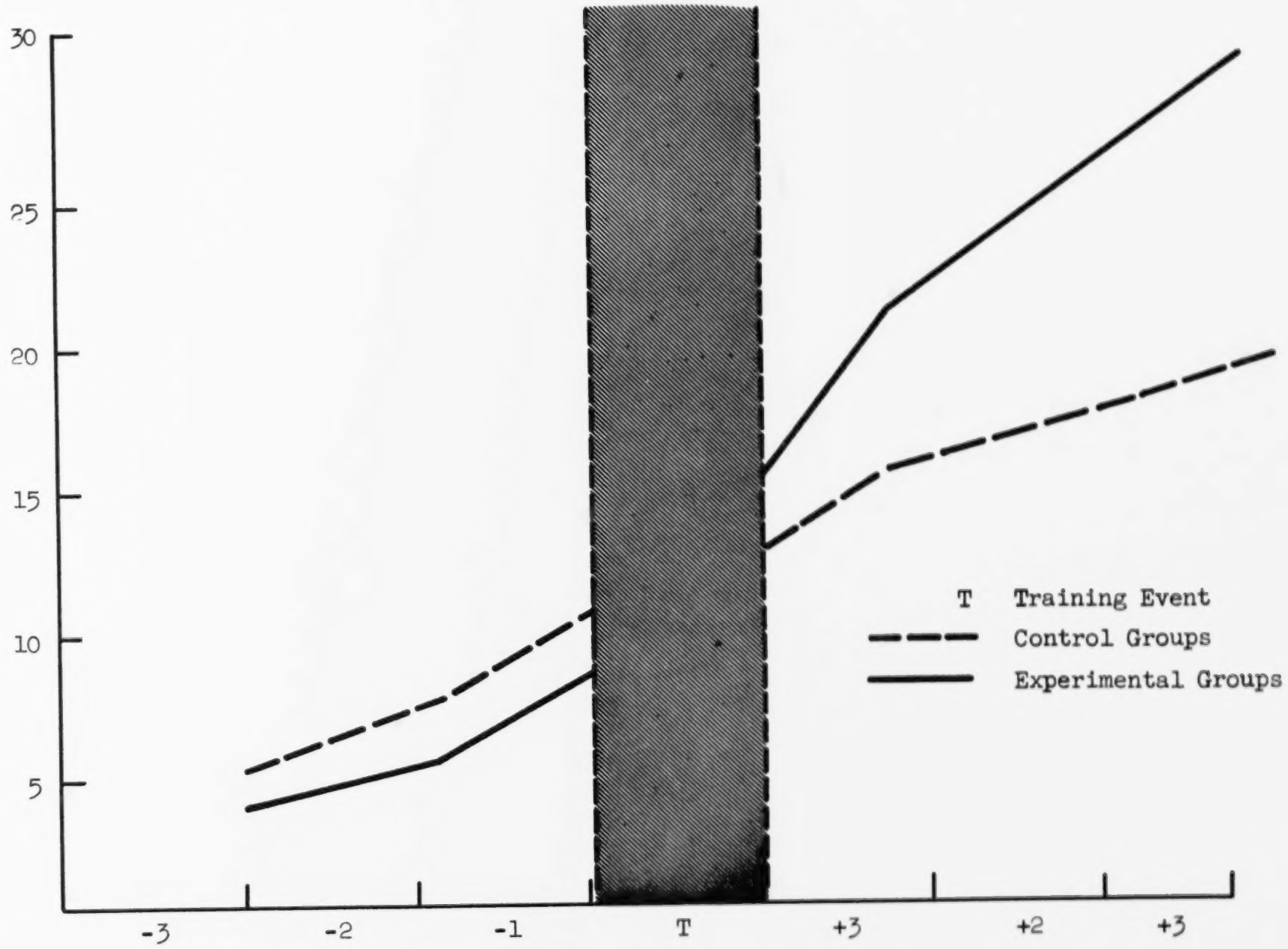


Figure 10. Agent of change score (by training year).

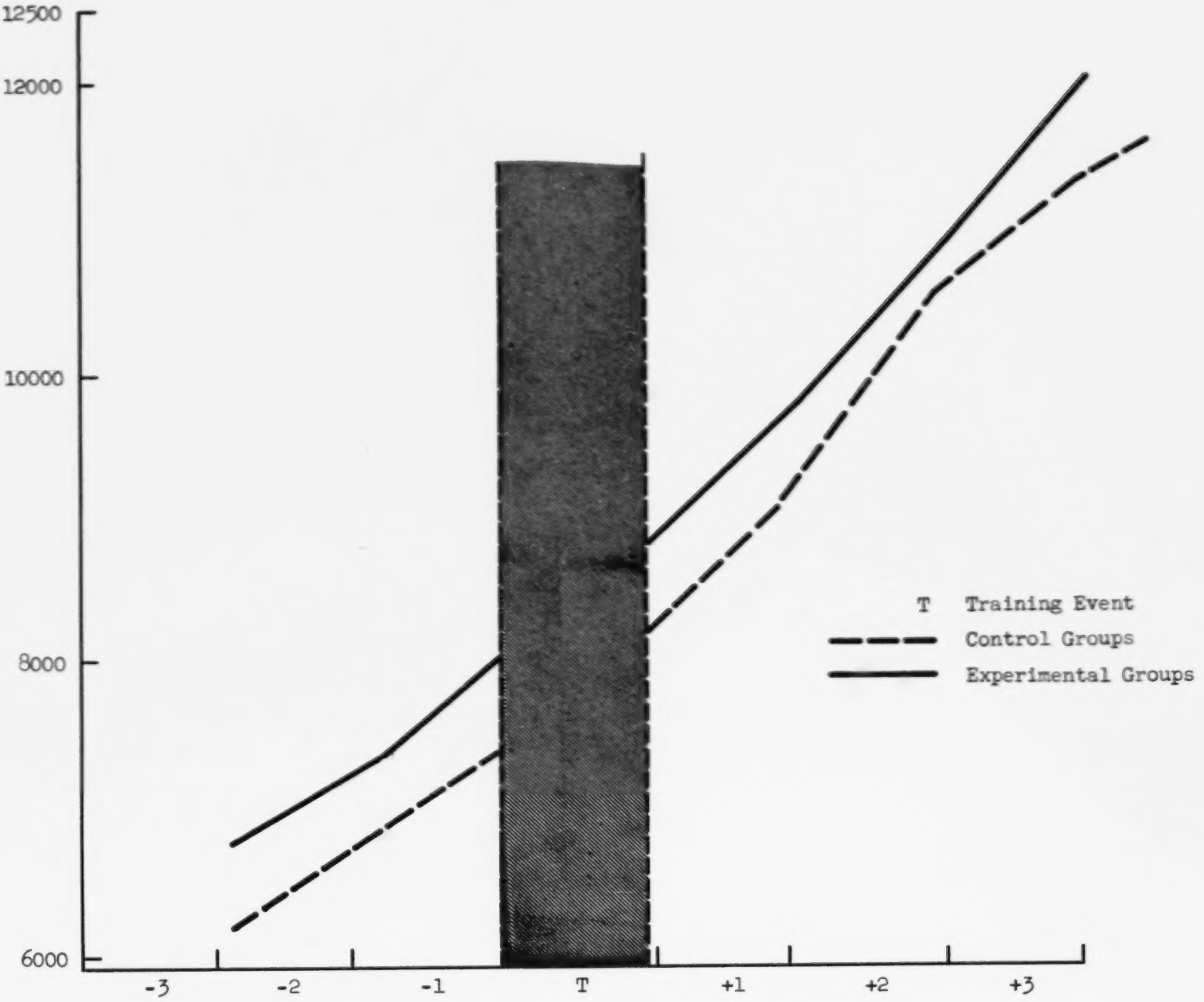


Figure 11. Salary (by training year).

but those groups that had completed training three years before follow-up showed the Experimental groups significantly ($p > .01$) higher than the Control group.

## C. THE PREDICTION PROBLEM

Ultimately, the question must be asked, "Is it possible to predict leadership behavior?" Considering the diverse opinions and conceptualizations, the task seemed formidable indeed. On the other hand, one might rephrase the question and ask, "Given the wealth of information available on candidates at the time of selection, would it have been possible to have predicted those whom today we judge to be better leaders?" The Leadership Score (see page 14), which is based on 1968 leadership behavior of all subjects, was used as the criterion measure of leadership performance. To answer this question, a correlation matrix was computed showing the intercorrelation of every predictor variable (see Appendix I, p. 75) and the Leadership Score. This matrix was based on the men in groups A, B, and $C_1$. All of those correlations which were significantly high ($p > .10$) were extracted and listed. To provide a consistency check, this procedure was repeated using groups D and $C_2$. Thus, only those variables which were relatively highly correlated with the Leadership Score in both years were considered as potentially valuable predictors. The resulting 8 variables and their respective correlations with the Leadership Score for each of the two years are listed in Table VI. These eight variables were then used to obtain a multiple regression equation which would maximize the variance accounted for in Groups A, B, and $C_1$. The resultant multiple correlation obtained was .68. This procedure was repeated, using groups D and $C_2$. The resultant multiple correlation (using different beta coefficients for the variables) was also .68. Table VII represents the weights of each of the variables in each equation.

Inspection of the table reveals that there is a very close relationship in almost all of the variables, with respect to the weights used. As part of a simple cross-validation procedure, the equation derived from groups A, B, and $C_1$ was then applied to groups E and $C_3$, which, heretofore, had not been involved in the prediction at all. As was expected, some shrinkage did occur, and the multiple correlation was .51. Nevertheless, this is a very respectable correlation (.25% of the reliable variance accounted for) and indicates a measure of predictability between the (pre-training) data and the (post-training) Leadership Score.

Another more practical approach which can be used, is to compare the effectiveness of the multiple regression equation (see Tables VIII and X) in a simple dichotomous 2 x 2 table with the effectiveness of the

TABLE VI

EIGHT BEST PREDICTORS AND CORRELATION WITH LEADERSHIP SCORE FOR GROUPS A, B, AND $C_1$ AND GROUPS D AND $C_2$

| Predictor Variable | Correlation in Groups | |
|---|---|---|
| | A, B, and $C_1$ (N=55) | D and $C_2$ (N=32) |
| Rating of Teaching Experience | .27 | .30 |
| Average Interview Rating | .35 | .23 |
| Order (Edwards Personal Preference Schedule) | -.32 | -.19 |
| Change (Edwards Personal Preference Schedule) | .29 | .28 |
| Endurance (Edwards Personal Preference Schedule) | -.18 | -.41 |
| Position Score | .26 | .43 |
| Salary (Average/Month) | .21 | .37 |
| Percent of Time Spent on Administration and/or Supervision | .47 | .40 |

TABLE VII

MULTIPLE REGRESSION EQUATION COEFFICIENTS FOR EACH EQUATION MAXIMIZING VARIANCE ACCOUNTED FOR

| Variable Number | Variable Name | Weight in Groups | |
|---|---|---|---|
| | | A, B, and $C_1$ | D and $C_2$ |
| 1 | Rating of Teaching Experience | 1.1 | .4 |
| 2 | Average Interviewer Rating | -3.0 | -3.0 |
| 3 | Order (Edwards Personal Preference Schedule) | - .34 | - .09 |
| 4 | Change (Edwards Personal Preference Schedule) Percentile | .08 | .07 |
| 5 | Endurance (Edwards Personal Preference Schedule) Percentile | - .02 | - .06 |
| 6 | Position Score (at Time of Selection) | .6 | 1.9 |
| 7 | Salary/Month (at Time of Selection | .004 | .007 |
| 8 | Percent Administration Time (at Time of Selection) | .07 | .05 |
| | Multiple Correlation | .68 | .68 |

Multiple Regression Equation (1):

$$X' = 1.1(1) -3(2) -.34(3) +.08(4) -.02(5) +.6(6) +.004(7) +.07(8) +41.$$

Multiple Regression Equation (2):

$$x' = .4(1) -3(2) -.09(3) +.07(4) -.06(5) +1.9(6) +.007(7) +.05(8) +35.$$

actual selection (see Tables IX and XI). When this is done, we find that the equation performs remarkably well in both cases, as compared to actual selection without the expected shrinkage in the second case.

TABLE VIII

PREDICTED SCORE VERSUS LEADERSHIP SCORE USING MULTIPLE REGRESSION EQUATION (1) FOR GROUPS A, B, AND $C_1$

| | Predicted Low Score | Predicted High Score | |
|---|---|---|---|
| Low Leadership Score | 10 | 7 | |
| High Leadership Score | 7 | 29 | |
| | | | 53* |

*Two persons had incomplete data at time of selection and were therefore eliminated from the prediction.

Predicted 39 out of 53 correctly = 74%

TABLE IX

ACTUAL SELÈCTION VERSUS LEADERSHIP SCORE
FOR GROUPS A, B, AND $C_1$

| | Rejected in Actual Selection (Group $C_1$) | Accepted in Actual Selection (Groups A and B) | |
|---|---|---|---|
| Low Leadership Score | 10 | 8 | |
| High Leadership Score | 8 | 29 | |
| | | | 55 |

Actually selected 39 out of 55 correctly = 71%

TABLE X

PREDICED SCORE VERSUS LEDERSHIP SCORE USING MULTIPLE
REGRESSION EQUATION (1) FOR GROUPS E AND $C_3$

| | Predicted Low Score | Predicted High Score | |
|---|---|---|---|
| Low Leadership Score | 11 | 5 | |
| High Leadership Score | 5 | 11 | |
| | | | 32 |

Predicted 22 out of 32 correctly = 69%

TABLE XI

ACTUAL SELECTION VERSUS LEADERSHIP SCORE FOR GROUPS E AND $C_3$

| | Rejected in Actual Selection (Group $C_3$) | Accepted in Actual Selection (Group E) | |
|---|---|---|---|
| Low Leadership Score | 8 | 8 | |
| High Leadership Score | 7 | 9 | |
| | | | 32 |

Actually selected 17 out of 32 correctly = 53%

# CHAPTER IV

# IN RETROSPECT

Two questions arise in considering the results. The first, of course, concerns the criterion, the Leadership Score on which judgments about the effectiveness of individuals are based. Although it is a non-validated score, and as such subject to more random error than is desirable, it is a valuable and needed tool if any objective assessment is to be carried on.

The second issue relates to the two seemingly contradictory statements repeated in the first two sections of Chapter III. The first is that there did exist a selection bias; the second maintains that statistically there was no significant difference on any of the criteria variables (variables which are components of the Leadership Score) at the time of selection. There was, however, a statistically significant difference (P=.05) between the Experimentals and Controls on the Average Interviewer's rating. Since random assignment of subjects into the experimental and control groups did not take place, (see page 14) it can only be concluded that some difference, whatever its nature, did exist, which influenced the interviewer's rating and played some role in the increase in Leadership Scores.

## A. CONCLUSIONS

1. One of the major accomplishments of this research is an objective quantitative measure of leadership. Although undoubtedly in need of further refinement, the Leadership Score has potential applicability to educational leadership in general and is not necessarily restricted to vocational-technical education.

2. It is impossible to reach a definitive conclusion as such on the value of the Michigan Leadership Development Program. The results are provocative and promising, and yet frustrating due to the beforementioned selection bias. However, it has been shown that selection and the training program (taken together) have accounted for impressive gains in leadership behavior.

3. The combination of the summer workshop and the internship phase has been shown superior to the internship phase alone. The differences in Qualitative Leadership Scores as well as the results of the supervisor's ratings (Wenrich and Hodges, p. 40) substantiate this claim. However, it is interesting to note that the internship phase

and the selection procedure itself could account for almost all improvement in the Formal Leadership Score.

B. RECOMMENDATIONS

1. Future projects concerned with vocational-technical education leadership and education leadership in general should obtain, at the beginning of the program, all available information in some objective form. This information should include pre-training measures of the behavior which is expected to change as a result of the training. Included in this information should be scores similar to those provided here such as Functions, Agent of Change, Vocational Role, Time Spent in Administrative Duties, and Positions Score. This information should be obtained not only from the applicants, but also from their immediate supervisors if possible.

2. Applicants should be randomly assigned to either experimental or control groups so that effective evaluations of the program can be made to differentiate gains due to selection from gains due to the actual training program.

3. Personnel and instruments should remain the same over the entire period to eliminate any "experimenter" effects. If any tests (personality, ability, attitude, and interest) are to be given, printed instructions should be prepared and used throughout the entire period; the tester should be someone who will remain with the program for its entirety.

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# APPENDIX A

## PROJECT DESCRIPTION

### 1. IDENTIFICATION, RECRUITMENT, AND SELECTION

#### a. Establiblishing the Criteria

Criteria of age, work experience, teaching experience, and education were used in identifying prospective candidates. A minimum of two years' teaching experience and two years' work experience in a field other than education were decided upon as a reasonable requirement for persons training for administrative positions in vocational-technical education. Minimum educational requirements were a B. S. degree and a teaching certificate. Only male applicants were considered for the first project.

It was assumed that, in most cases, men who are capble of attaining a position of educational leadership will have done so by the age of forty-five. Since this project was designed to identify and assist in the preparation of potential leaders, it was decided that persons older than forty-five years of age would be excluded. However, in appling this criterion, it was discovered that three applicants, otherwise highly qualified, were slightly over the forty-five-year age limit. After further consideration by the screening committee, they were included in the project.

#### b. Sources of Candidates

After the initial criteria for identification were decided upon, possible methods of collecting names of qualified candidates were considered. Of the several sources considered, two were chosen as practical within the limits of time and funds available for the project. The first was an attempt to identify all teachers with majors in agriculture, business, or industrial education, who met the initial criteria through the Michigan Department of Public Instruction IBM filing system. Because the filing system was incomplete and the classification code was not regulated to the established criteria, this source proved inadequate. Therefore, the second method, in which school administrators were asked to submit the names of persons whom they considered to be potential leaders in vocational-technical education, was used. This method of selection contains some inherent disadvantages. Some administrators have a larger pool of potential candidates from which to choose than others.

Moreover, it is not completely possible to eliminate personal bias on the part of the administrators in making their recommendations.

However, the involvement of local administrators was viewed as a potential strength for the total project, since the second major phase of the project, the internship experience, was dependent for its success upon the support and cooperation of the intern's local administrators. By asking the administrator to nominate certain persons from his school system, he was made to feel part of and important to the success of the project. This attitude was reflected in the many letters received from administrators. The close communication and cooperation thus created between the project officials and the local administrators played an essential role in the total acceptance of the project.

c. Contacting Administrators

A questionnaire and accompanying cover letter were prepared and sent each year to administrators (principals, superintendents, local directors of vocational education, teacher educators, and community college deans) requesting names of persons whose qualifications seemed appropriate to the project. Since most small school systems have only limited vocational offerings, the questionnaire was sent only to those school systems with an enrollment of at least 600 pupils. Of those who responded to the questionnaire, most nominated one or more persons. As many as four persons were nominated by one administrator. For a total breakdown of the letters sent, and the nominations received, see Table A-I.

d. Contacting the Nominees

All nominations received from administrators were accepted. A questionnaire and cover letter were prepared and mailed to all nominees to inform them of the project and of the fact that they had been nominated. Those wishing to participate in the project were asked to complete and return the questionnaire by a specified date. The questionnaire requested information such as age, teaching experience, work experience, education, military experience, participation in social and professional organizations, honors and awards received, leadership positions held, and names and addresses of immediate supervisors. This information was to be used by the project staff for selection purposes (see Appendix B. p. 54). Only those nominees who responded and indicated that they would be willing to participate in the project were considered for selection. It is this group that formed the pool from which the candidates were selected.

TABLE A-I

CUMULATIVE RECORD OF RECRUITMENT STATISTICS

| | 1964-1965 | 1965-1966 | 1966-1967 | 1967-1968 | 1968 1969 |
|---|---|---|---|---|---|
| LETTERS SENT: | | | | | |
| Superintendents | 454 | 450 | 454 | 463 | 468 |
| High School Principals | 574 | 497 | 506 | 530 | 523 |
| Local Directors of Vocational Education | 33 | 35 | 50 | 47 | 75 |
| County Superintendents | -- | 69 | 62 | 62 | 59 |
| Community College Deans | 17 | 19 | 23 | 23 | 32 |
| Teacher Educators | 31 | 30 | 29 | 24 | 29 |
| Former LDP'ers (excluding those serving as Directors of Vocational Education) | -- | -- | -- | -- | 56 |
| Other (County Directors of Vocational Education, etc.) | -- | -- | -- | -- | 21 |
| TOTAL LETTERS SENT: | 1109 | 1100 | 1124 | 1149 | 1263 |
| NOMINATIONS RECEIVED (considered) | 254 | 310 | 278 | 357 | 301 |
| APPLICATIONS RECEIVED (considered) | 166 | 134 | 146 | 207 | 129 |
| TESTED AND INTERVIEWED | 96 | 38 | 45 | 38 | 43 |

e. Initial Screening Procedure

The initial screening of qualifications was done cooperatively by the project director, the project coordinator, staff members, and two research assistants. Together they studied the personal data of all the applicants and eliminated those who did not meet one or more of the initial criteria. Each year approximately one-third of the applicants failed to meet one or more of the following criteria: unable to attend the interviewing and testing sessions; age; not in one of the required teaching fields; inadequate teaching experience; and inadequate work experience. In every year except the first (1964-65), further screening was done to reduce the number of nominees to a manageable size. In the first year, all of those who met the initial requirements were invited to Ann Arbor for testing and interviewing; in each following year, the number so invited has been maintained at around forty, or approximately the number of positions open.

f. Testing and Interviewing

Those applicants invited to come to Ann Arbor for testing and interviewing were scheduled in small groups over a three-day period. The morning session was devoted to testing and lasted about three hours; during the afternoon, each nominee was given two half-hour interviews by different staff members. At noon the applicants and staff attended a luncheon and group observation period.

Using a specially prepared interview form (Appendix C, p. 58), the members of the project staff, assisted by other School of Education faculty members, evaluated each nominee on several dimensions. Upon completion of the interview, each interviewer assessed the nominee by ranking him on a five-point scale. The reports of the two interviewers for each nominee were compared for consistency. If the two assessments differed sharply, the case was reconsidered individually by the total screening committee.

The tests given at the morning session included three standardized tests: the Edwards Personal Preference Schedule, the American Council on Education Psychological Examination, and the Public Opinion Questionnaire, a revised edition of the California-F Scale. Candidates were alsc asked to respond to an inventory of personality traits (adapted from the EPPS) and to make a list of personal characteristics perceived as important for the position for which they wished to prepare (see Appendices D and E, pp. 59-61). These test results were to be used primarily for purposes of research, although they were included in the data reviewed during the final selection of applicants.

During the testing and interviewing phase of the project, a reference questionnaire was sent to the immediate supervisor of each of the nominees. The purpose of this questionnaire was to seek the reactions of the supervisors to a number of questions dealing with the basis of leadership qualities and character traits of the nominees (see Appendix F, pp. 62-63). All of the above data were kept in individual confidential files, accessible only to staff members. To further assure anonymity, a number, rather than the name of the nominee was assigned to each file.

g. Final Selection of the Candidates

The project staff carefully reviewed all of the information available on all candidates and proceeded to rank them from first to last. A mean ranking was then obtained, which was to be the basis for decision. In the first year, forty men were selected to participate. Seven alternates were selected and listed in the order in which they would be contacted if members of the group of forty declined the invitation to participate. Of these forty men, twenty were randomly assigned to group A and twenty to group B. (It will be remembered that group A was to have both the summer workshop and the internship experience; group B was to have only the internship experience.)

In each subsequent year, only twenty men were selected who would undergo both phases of the program. That, however, is the only fundamental difference in the selection procedure.

## 2. DEVELOPMENTAL PHASE OF THE PROGRAM

### a. The Summer Workshop

To provide the specific knowledge necessary for an effective vocational-technical education administrator, and to acquaint the participants with accepted leadership practice techniques, an eight-week summer workshop was held at The University of Michigan for each year of the program. In order to encourage the development of greater understanding of the social forces which affect educational leadership in modern society, and to provide for the study and practice of those personal skills used by leaders, an interdisciplinary approach was used, utilizing the resources of 48 special consultants from the fields of government, the social sciences, business, industry, agriculture, and education, who were guest lecturers during the summer workshop. Topics covered by lecturers were organized into eight general categories. The categories and number of hours of lecture-

discussion time assigned to each were as follows:

| | |
|---|---|
| Administrative Functions | 26 |
| Personal Skills | 19 |
| Organizational Problems | 15 |
| Leadership Factors | 12 |
| Supervision-Curriculum Development | 11 |
| Socio-Economic Considerations | 06 |
| Industrial Psychology | 04 |

Although this breakdown is based on the original program (1964-65), a similar pattern has been maintained throughout the program in the subsequent years. Human relations theory and practice were stressed throughout the workshop and internship phases of the project.

In addition, during the workshop, the fields of agriculture, home economics, business, trades and industry, technical education, industrial arts, and adult education were studied from a pragmatic as well as from an administrative viewpoint. Because each workshop participant was experienced in teaching, coordinating, or supervising one or more of these subject areas, group interaction through informal discussion and exchange-of-idea sessions was encouraged to expand the understanding of these areas for all participants. Considerable attention was given to educational administration topics related to organizational structure, administrative functions, supervision, and curriculum development. These same topics were examined in view of any related problems that might be unique to vocational education administration.

Several techniques for presentation and study were used in the different units covered, including lectures, discussions, field trips, case studies, role playing, oral and written reports, seminars, and independent study. Ad hoc committees were formed for each of the major units of study; each participant served on at least one ad hoc committee. Four standing committees were also established: the Field Trip Committee, the Library and Reference Committee, the Materials Reproduction Committee, and the Social Committee. Each participant also served on at least one of the standing committees. The offices of chairman and recording secretary were rotated, allowing each member an opportunity to put leadership skills into practice.

One day each week was reserved for a field trip to some educational or industrial center. Following each trip, participants were given an opportunity to discuss and evaluate the trip, particularly in terms of its value to them as future vocational education administrators. Results of these evaluation sessions were collected by the Field Trip Committee and retained for reference in selecting

trips for future workshop groups.

b. The Internship Program and Monthly Seminars

Beginning in the fall, immediately following the workshop, all of the workshop groups and group B were involved in an internship program designed to provide them with directed experiences in administration or supervision. During this internship phase, the participants met once a month, usually in Ann Arbor. During the first year of the program, they were split into three groups according to geographical location, meeting at Ann Arbor, Grand Rapids, and Marquette. The basic purpose of these meetings was to exchange ideas and experiences concerning the internship, to discuss specific problems, and to study new developments and trends. Guest speakers were utilized whenever desirable and possible. The goals of this phase were:

1. To enable the intern to benefit by the accumulated experience of an administrator

2. To assist the intern in gaining knowledge of vocational and technical fields other than his own specialty

3. To provide the intern with further knowledge of his community

4. To better acquaint the intern with the administrative operation of his own school

5. To provide an experience whereby the intern could assess his own strong and weak points

6. To help the intern become better acquainted in his community and to assist him in gaining professional stature in the eyes of his colleagues

Interns were provided experiences and involvements, both in their own schools and in others, which were planned to make their internships more meaningful through increased knowledge and development of attitudes vital to an administrator. They visited outstanding industrial arts and vocational education departments, adult education programs, apprenticeship and cooperative training programs, and government and community organizations. In addition, they observed in action special programs and projects such as area redevelopment, manpower training, nurse's training, anti-poverty programs, and terminal-technical education programs at the community college level. The original group (1964-65) also took part in the gathering

of data for a University of Michigan study to determine what kinds of responsibilities high school principals would assign to an assistant responsible for occupationally oriented programs in the high schools, should such an assistant be provided (Wenrich and Shaffer, 1965).

The University of Michigan

APPENDIX B. APPLICATION FORM FOR LEADERSHIP DEVELOPMENT PROGRAM

Please answer the following questions and return the form, no later than February 24, 1964, to Ralph C. Wenrich, School of Education, The University of Michigan, Ann Arbor.

1. Name and Home Address _____

_____

2. Would you be interested in being further considered as a candidate for the Leadership Development Project at The University of Michigan?

☐ Yes ☐ No

3. Would you be interested in participating in the eight-week workshop in leadership development next summer as a part of the project?

☐ Yes ☐ No

If yes, would you participate whether or not you receive any financial support from the project?

☐ Yes ☐ No

4. Would you be willing to come to Ann Arbor for a day at your own expense during the month of March to be interviewed and take a battery of tests as a part of the project?

☐ Yes ☐ No

If yes, circle the dates that you would like to come.

March 9 March 10 March 11 March 12 March 13 March 16

(All interviewing and testing must be done on these dates.)

5. If you were to be finally selected for the program, would you be willing to participate in an on-the-job experience in an administrative or supervisory position during the school year 1964-65?

☐ Yes ☐ No

6. If you are finally selected for the eight-week workshop, would you be willing to live in Ann Arbor for these weeks (with the exception of week ends)?

☐ Yes ☐ No

If yes, and if you have a family, will you bring the members of your family to Ann Arbor?

☐ Yes ☐ No

7. The selected participants will be divided into two groups: (1) an experimental and (2) a control group. The experimental group will participate in the eight-week workshop, while the control group will not. Both groups, however, will be tested, interviewed and followed up in the same manner. Would you be interested in participating in either group or just the experimental group?

☐ Experimental group, only

☐ Control group, only

☐ Either group

8. Date of your birth: _____

9. Your marital status: ☐ Single ☐ Married ☐ Widowed

10. Number of children you have: _____

11. Have you completed any course work beyond your last degree?

☐ Yes ☐ No

If yes, how many semester hours? _____

At what institution? _____

12. Have you completed the above work toward an advanced degree?

☐ Yes ☐ No

If yes, for what degree? _____

13. What type of certificate do you now hold?

☐ Secondary Provisional ☐ Vocational

☐ Secondary Permanent Other _____

14. What subject(s) appear on your certificate?

_____

15. What degree(s) do you hold? When did you receive them? From what institution?

| Degree | Date Received | Name of Institution |
|---|---|---|
| | | |
| | | |

16. Your present position and business address:

Title of position (if teacher, give subject taught) _____

School (or school system) _____

Address _____

_____

17. Give full name and address of your present immediate supervisor.

_____

_____

18. Former experience in schools (teaching, counseling, etc.)

| Name of School & Location | Type of Position | Level and Subject Taught | Dates From | Dates To |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

19. Give full name and address of your immediate supervisor in former teaching position(s), if any.

_____

_____

_____

20. Kind and amount of work experience in business, industry, agriculture and/or military service you may have had.

| Title of Positions Held | Name and Address of Firm | Dates From | Dates To |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

21. Give full name and address of your supervisor in business, industry, agriculture, and/or military service for whom you have worked most recently.

_____

_____

22. List the professional associations in which you hold membership and describe your participation in each (1) as an officer or committeeman and (2) in the meetings or conventions as a program chairman, speaker, etc.

| Associations | Nature of Participation |
|---|---|
| | |
| | |
| | |
| | |

23. List all honors and awards (such as honorary memberships, scholarships, or other kind of awards) you have received.

| Kind of Award | When Received | By Whom Granted |
|---|---|---|
| | | |
| | | |
| | | |

24. List any leadership roles in your school or community which you now hold or have held in the past (such as committee chairmanship, offices held in organizations, or other elected or appointed positions in the school or in the community).

| Leadership Position Held | When Held | Appointed or Elected |
|---|---|---|
| | | |
| | | |
| | | |

25. The following space is reserved for any additional information that you would like to add (you may include any contributions to your profession, or any professional activities not reported elsewhere in this form).

Date _____ Name _____

## APPENDIX C. INTERVIEW GUIDE

| | Out-standing | Excellent | Good | Fair | Poor | Can't say |
|---|---|---|---|---|---|---|
| 1. HOW WOULD YOU DESCRIBE THE CANDIDATE'S GENERAL APPEARANCE? (Consider dress; grooming; bearing; physical defects, if any, etc.) | | | | | | |
| 2. WHAT IS YOUR ESTIMATE OF THE CANDIDATE'S ENTHUSIASM? (Consider his attitude toward this project; his outlook toward his profession; purpose in life, etc.) | | | | | | |
| 3. WHAT WAS THE QUALITY OF HIS TEACHING EXPERIENCE? (Consider the relationship of his teaching experience to the needs of employment-bound youth; satisfactions from teaching; relationships and rapport with students and others, etc.) | | | | | | |
| 4. WHAT WAS THE QUALITY OF HIS WORK EXPERIENCE OTHER THAN TEACHING? (Consider the contribution of work experience to his effectiveness as a teacher; was it a satisfying experience? Is the work experience reported accurate (see item 20 on personal data form in candidate's folder)?) | | | | | | |
| 5. HOW WOULD YOU RATE THE CANDIDATE'S GOALS AND ASPIRATIONS? (Consider his reasons for being interested in this project; the realistic nature of his goals, etc.) | | | | | | |
| 6. HOW WOULD YOU RATE THE CANDIDATE'S COMMUNICATIONS SKILLS? (Consider ability to express himself; proper English usage; fluency, etc.) | | | | | | |
| 7. WHAT WAS THE CANDIDATE'S ATTITUDE TOWARD THE INTERVIEW AND THE INTERVIEWER? | | | | | | |
| 8. HOW WOULD YOU RATE THE CANDIDATE'S LEVEL OF MATURITY? (Consider his self-understanding, judgment, and rationality.) | | | | | | |

**Overall appraisal** (Check one)

_____ Recommended very highly
_____ Recommended highly
_____ Recommended
_____ Recommended with reservations
_____ Not recommended

**Comments:**

Signature of Interviewer _____

If you are accepted for the project and are in the experimental (workshop) group, would you plan to live in Ann Arbor? Yes ____ No ____

If you are accepted for the project, would you be willing to come to Ann Arbor four times a semester as a part of your internship? Yes ____ No ____

APPENDIX D. SELECTION TEST

Name _____

The University of Michigan

LEADERSHIP DEVELOPMENT PROJECT
for
Vocational and Technical Education

TEST D, PART I

1. What type of leadership position are you most interested in preparing for?

   _____

2. List as many traits or personal characteristics as you can that you feel would be important for the position you specified in item 1.

   1. _____
   2. _____
   3. _____
   4. _____
   5. _____
   6. _____
   7. _____
   8. _____
   9. _____
   10. _____
   11. _____
   12. _____
   13. _____
   14. _____
   15. _____

3. After you have finished your list (under item 2 above), place a check in front of the three items you feel are the most important.

APPENDIX E. SELECTION TEST

Name _____

The University of Michigan

LEADERSHIP DEVELOPMENT PROJECT
for
Vocational and Technical Education

TEST D, PART II

**Directions:** In your estimation, how important is each of the following items as it might relate to you in the leadership position which you indicated in Item I, Part I interests you most. Check each item "very important", "somewhat important", or "not very important".

| | | | Very important | Somewhat important | Not very important |
|---|---|---|---|---|---|
| 1. | a. | To do one's best | a. | | |
| | b. | To be successful | b. | | |
| | c. | To accomplish tasks requiring skill and effort | c. | | |
| | d. | To be a recognized authority | d. | | |
| | e. | To accomplish something of great significance | e. | | |
| 2. | a. | To accept the leadership of others | a. | | |
| | b. | To read about great men | b. | | |
| | c. | To conform to custom and avoid the unconventional | c. | | |
| | d. | To let others make decisions | d. | | |
| 3. | a. | To have written work neat and organized | a. | | |
| | b. | To make plans before starting on a difficult task | b. | | |
| | c. | To have things organized | c. | | |
| | d. | To keep things neat and orderly | d. | | |
| 4. | a. | To say witty and clever things | a. | | |
| | b. | To tell amusing jokes and stories | b. | | |
| | c. | To talk about personal adventures and experiences | c. | | |
| | d. | To talk about personal achievements | d. | | |
| | e. | To be the center of attention | e. | | |
| 5. | a. | To be able to come and go as desired | a. | | |
| | b. | To say what one thinks about things | b. | | |
| | c. | To be independent of others in making decisions | c. | | |
| | d. | To feel free to do what one wants | d. | | |
| 6. | a. | To be loyal to friends | a. | | |
| | b. | To participate in friendly groups | b. | | |
| | c. | To do things for friends | c. | | |
| | d. | To form new friendships | d. | | |
| | e. | To make as many friends as possible | e. | | |
| 7. | a. | To understand how others feel about problems | a. | | |
| | b. | To put one's self in another's place | b. | | |
| | c. | To judge people by why they do things rather than by what they do. | c. | | |

| | | | Very important | Somewhat important | Not very important |
|---|---|---|---|---|---|
| 8. | a. | To seek encouragement from others | a. | | |
| | b. | To have others be kindly | b. | | |
| | c. | To have others be sympathetic and understanding about personal problems | c. | | |
| | d. | To have others feel sorry when one is sick | d. | | |
| 9. | a. | To settle arguments and disputes between others | a. | | |
| | b. | To persuade and influence others to do what one wants | b. | | |
| | c. | To supervise and direct the actions of others | c. | | |
| | d. | To tell others how to do their jobs | d. | | |
| 10. | a. | To feel guilty when one does something wrong | a. | | |
| | b. | To feel depressed by inability to handle situations | b. | | |
| | c. | To feel timid in the presence of superiors | c. | | |
| | d. | To feel inferior to others in most respects | d. | | |
| 11. | a. | To help friends when they are in trouble | a. | | |
| | b. | To assist others less fortunate | b. | | |
| | c. | To treat others with kindness and sympathy | c. | | |
| | d. | To forgive others | d. | | |
| 12. | a. | To do new and different things | a. | | |
| | b. | To travel | b. | | |
| | c. | To meet new people | c. | | |
| | d. | To experience novelty and change in daily routine | d. | | |
| | e. | To experiment and try new things | e. | | |
| 13. | a. | To keep at a job until it is finished | a. | | |
| | b. | To complete any job undertaken | b. | | |
| | c. | To work hard at a task | c. | | |
| | d. | To keep at a puzzle or problem until it is solved | d. | | |
| 14. | a. | To go out with members of the opposite sex | a. | | |
| | b. | To engage in social activities with the opposite sex | b. | | |
| | c. | To be in love with someone of the opposite sex | c. | | |
| 15. | a. | To tell others off when disagreeing with them | a. | | |
| | b. | To get revenge for insults | b. | | |
| | c. | To become angry | c. | | |
| | d. | To blame others when things go wrong | d. | | |
| | e. | To read newspaper accounts of violence | e. | | |

APPENDIX F. REFERENCE QUESTIONNAIRE

NAME OF CANDIDATE_____

DIRECTIONS: Under each of the following questions check the one phrase which most accurately describes the candidate's habitual behavior with regard to that specific trait. Use the space at the end of each item for any comment you care to make about the candidate as far as that trait is concerned.

A. HOW WELL IS HE ABLE TO DIRECT AND INFLUENCE OTHERS ALONG DEFINITE LINES OF ACTION?

_____ Very successful in leading others.
_____ Normally successful in directing and controlling others.
_____ Poor leader - incapable of directing others.

Comments _____

B. HOW WELL DOES HE WORK WITH ASSOCIATES AND OTHERS FOR THE GOOD OF A GROUP?

_____ Cooperates willingly and actively regardless of self-benefit; makes things go smoothly.
_____ Cooperates with others toward accomplishment of common cause.
_____ Gives limited cooperation; neglects common good for own interests.

Comments _____

C. HOW RESPONSIBLE IS HE? IS HE ABLE TO GET THINGS DONE ON HIS OWN?

_____ Exceptionally able to accomplish work without instructions.
_____ Carries out routine activity on own responsibility.
_____ Usually needs detailed instructions with regular checks of work.

Comments _____

D. HOW DOES HE REACT TO SUGGESTIONS OR CRITICISM BY OTHERS?

_____ Follows suggestions willingly.
_____ Listens to suggestions but may act without considering them.
_____ Resents suggestions and criticism.

Comments _____

E. HOW WELL DOES HE APPLY ATTENTION, ENERGY, AND PERSISTENCE IN FOLLOWING A JOB THROUGH?

_____ Unusual perseverance; does more than expected.
_____ Industrious, energetic; dependable at all times.
_____ Completes assigned tasks of his own accord.
_____ Rather indifferent; does not finish job.
_____ Needs much prodding to complete work.

Comments _____

F. HOW WELL DOES HE PUT HIS PRINCIPLES AND CONVICTIONS INTO ACTION?

_____ Carries out his principles and convictions constantly and boldly even in face of obstacles.
_____ Acts according to his convictions under normal circumstances.
_____ Fails to carry out his convictions under adverse circumstances.

Comments _____

**Directions:** Please state briefly what you know of the applicant with regard to each of the following items.

WOULD YOU DESCRIBE THE POSITION HELD BY THE CANDIDATE WHILE UNDER YOUR SUPERVISION?

**Title of Position:**

**Duties:**

DO YOU KNOW ANYTHING ABOUT HIS PARTICIPATION IN CIVIC, SERVICE, OR PROFESSIONAL ORGANIZATIONS

_____ Yes _____ No. If yes, please explain.

DO YOU HAVE AN OVERALL IMPRESSION OF HIS LEADERSHIP POTENTIAL FOR DIRECTING VOCATIONAL OR TECHNICAL EDUCATION PROGRAMS? _____ Yes _____ No. If yes, please explain.

OTHER INFORMATION. (Include here any information that you deem pertinent which has not been asked above, such as discretion, honesty, neatness, companions, integrity, etc.)

How long have you known the candidate? _____

Are you related to the candidate? _____ Yes _____ No.

If yes, state relationship. _____

Signed _____

Your name _____
(printed or typed)

Employed by _____

Position _____

Date _____.

Since your answer to the foregoing items will have direct bearing upon the selection of this candidate, please immediately return this form in the enclosed envelope.

APPENDIX G. PILOT (1967) FOLLOW-UP STUDY FORM

UNIVERSITY OF MICHIGAN LEADERSHIP DEVELOPMENT PROGRAM
for
VOCATIONAL AND TECHNICAL EDUCATION

NAME _____ Date _____
(Last) (First) (Middle)

1. How many children do you have living at home? _____ What are their ages? ___ ___ ___ ___

2. Do you own your own home? Yes ____ No ____

Part I. PROFESSIONAL HISTORY

3. We would like some information concerning your job history the last four years. Would you please give the title of your position (Example, Teacher, Coordinator, Local Director, Consultant, Dean of Technical Education):

. . . At Present _____ School _____

_____ _____

. . . As of March 1,'66 _____ School _____

_____ _____

. . . As of March 1,'65 _____ School _____

_____ _____

4. Please check the appropriate point on scale to indicate your contract salary. Figures indicate thousands of dollars. Be sure to specify length of contract salary in each Number-of-Months blank.

6 7 8 9 10 11 12 13 14 15 16 17 18

At present
Number of Months _____

As of March 1,'66
Number of Months _____

As of March 1,'65
Number of Months _____

5. Please check the appropriate point on scale to indicate the percentage of time you spend or spent in Administrative and/or Supervisory Duties:

0 10 20 30 40 50 60 70 80 90 100

. . At present

. . As of March 1,'66

. . As of March 1,'65

## Part II. RESPONSIBILITIES RELATIVE TO FUNCTIONS PERFORMED IN PRESENT POSITION

6. Is your present position a line position or a staff position? ☐ Line ☐ Staff

Instructions: On this page we have listed six functions which vocational administrators may perform. Please indicate how often you perform each function with a check (✓) in the appropriate box. Then, if you perform the function, indicate at what level of responsibility you usually work, with a check in the box in the appropriate column. The levels of responsibility are defined below by showing examples of activities we've classed at the various levels. The activities shown are intended to give an overall feeling of the type of activities a person with that level of responsibility might engage in. Pick the level of responsibility which best fits what you do.

Level I -- Helps set goals and objectives of organization. Makes policy which will meet these goals. Plans structure essential to the achievement of organizational goals. Allocates personnel and financial resources. Has major responsibility concerning organization's direction.

Level II -- Implements policy by setting up procedures. May also revise procedures. Recommends policy changes. May supervise those who carry out tasks. Shares responsibility for function's success or failure.

Level III -- Participates at operational level. Carries out activities according to procedures that have been set by others. May recommend changes in procedures to supervisor. Makes few decisions. Involved in function, but with little responsibility for its success or failure.

| FUNCTIONS | How often do you perform each function? | If you do handle this function, what level of responsibility bests fits what you do? | | |
|---|---|---|---|---|
| | | I | II | III |
| 7. STAFF PERSONNEL. Personnel staffing. Orientation. In-service training. Teacher assignment. Salary and promotions. Teacher certification. | ☐ Regularly ☐ Often ☐ Seldom ☐ Never | ☐ | ☐ | ☐ |
| 8. SCHOOL-COMMUNITY RELATIONS. Relationships with labor, industry, business, service clubs, governmental agencies, mass media and advisory committees. Interpretation of programs to the community. Surveys. | ☐ Regularly ☐ Often ☐ Seldom ☐ Never | ☐ | ☐ | ☐ |
| 9. BUSINESS AND FINANCIAL. Budget preparation. Funding. Financial reports. Accounting records. Allocation of funds. Purchasing. | ☐ Regularly ☐ Often ☐ Seldom ☐ Never | ☐ | ☐ | ☐ |
| 10. PROGRAM DEVELOPMENT. Program objectives. Curriculums and courses. Instruction improvement. Program evaluation. Development of instructional material. Innovations, such as team teaching, programmed learning and role playing. Audio-visuals. | ☐ Regularly ☐ Often ☐ Seldom ☐ Never | ☐ | ☐ | ☐ |
| 11. PUPIL PERSONNEL SERVICES. Vocational guidance services. Selection of students. Job placement. Follow-up and drop-out studies. Work permits. | ☐ Regularly ☐ Often ☐ Seldom ☐ Never | ☐ | ☐ | ☐ |
| 12. PHYSICAL FACILITIES. Determination of needs. Site selection. Floor space utilization. Funding. Capital equipment. | ☐ Regularly ☐ Often ☐ Seldom ☐ Never | ☐ | ☐ | ☐ |

## Part III. PROFESSIONAL ACHIEVEMENTS AND ASSOCIATIONS AND ASPIRATIONS

13. List any leadership roles <u>in your community</u> which you have held or now hold (such as committee chairmanship, offices held in service organizations, or other elected or appointed positions).

| Leadership Position Held Since March, 1965 | From Mo./Yr. | To Mo./Yr. | Elected or Appointed | |
|---|---|---|---|---|
| | | | ☐ | ☐ |
| _____ | ____ | ____ | ☐ | ☐ |
| _____ | ____ | ____ | ☐ | ☐ |
| _____ | ____ | ____ | | |

14. List any leadership roles <u>in your school</u> which you have held or now hold (such as committee chairmanship, offices held in professional organizations, or other elected or appointed positions).

| Leadership Position Held Since March, 1965 | From Mo./Yr. | To Mo./Yr. | Elected or Appointed | |
|---|---|---|---|---|
| | | | ☐ | ☐ |
| _____ | ____ | ____ | ☐ | ☐ |
| _____ | ____ | ____ | ☐ | ☐ |
| _____ | ____ | ____ | | |

15. List any leadership roles <u>in state and national professional associations, occupationally oriented organizations or professional fraternities</u> which you have held or now hold (such as state-wide committees, offices held, or other elected or appointed positions).

| Leadership Positions Held Since March, 1965 | From Mo./Yr. | To Mo./Yr. | Elected or Appointed | |
|---|---|---|---|---|
| | | | ☐ | ☐ |
| _____ | ____ | ____ | ☐ | ☐ |
| _____ | ____ | ____ | ☐ | ☐ |
| _____ | ____ | ____ | | |

16. If there are any other activities in which you have participated since March 1, 1965, that have contributed significantly to your development as a teacher or administrator, (such as state or national conferences, workshops, pbulications or articles, or committee membership) please describe briefly.

_____

_____

_____

_____

_____

_____

17. If you have been instrumental in introducing new ideas or programs in your school since March 1, 1965, (involving either the revision of existing programs or the initiating of new programs), please describe briefly the idea or program.

18. If you have received a degree since March 1, 1965, please describe below.

| Degree Received | Institution | Date |
|---|---|---|

19. If you have completed other work toward a degree since March 1, 1965, please describe below.

| Number of Hours | Toward Which Degree | Institution | Date |
|---|---|---|---|

20. What are your plans, goals, or aspirations for the future? (five years from now, or ten years from now)

21. Thank you for your cooperation. That completes the questionnaire. Is there anything else you would like to mention about yourself or your progress since March 1, 1965?

APPENDIX H. 1968 FOLLOW-UP STUDY FORM

**UNIVERSITY OF MICHIGAN LEADERSHIP DEVELOPMENT PROGRAM**
**for**
**VOCATIONAL AND TECHNICAL EDUCATION**

NAME_____ DATE_____ AGE_____

**PART I**
**PROFESSIONAL HISTORY**

1. We would like some information concerning your job history over the past several years. Would you please check the appropriate title of your position for each of the listed years and the information about the type of institution or school system.

| TITLE OF POSITION | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 |
|---|---|---|---|---|---|---|---|
| Teacher or instructor..... | | | | | | | |
| Counselor or co-ordinator..... | | | | | | | |
| Department head or chairman..... | | | | | | | |
| Supervisor or assistant principal.... | | | | | | | |
| Director of Vocational Education.... | | | | | | | |
| Assistant professor or director of community college... | | | | | | | |
| Principal..... | | | | | | | |
| Dean or consultant..... | | | | | | | |
| Superintendent or assistant superintendent..... | | | | | | | |

| YPE OF INSTITUTION | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 |
|---|---|---|---|---|---|---|---|
| Junior high school..... | | | | | | | |
| Senior high school..... | | | | | | | |
| School district..... | | | | | | | |
| Intermediate school district..... | | | | | | | |
| Community college..... | | | | | | | |
| College or university..... | | | | | | | |

SIZE OF INSTITUTION

| | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 |
|---|---|---|---|---|---|---|---|
| Small..... | | | | | | | |
| Medium..... | | | | | | | |
| Large..... | | | | | | | |

If for some reason, your particular position was not specified in the preceding list, please indicate what that position was and the years that you held it on the lines below.

_____

_____

_____

Please check the appropriate point on the scale to indicate your contract salary. Figures refer to thousands of dollars. Be sure to specify the length of contract salary in the blank provided.

At present for____months. 6 7 8 9 10 11 12 13 14 15 16 17

As of March 1, 1967 for____months. 6 7 8 9 10 11 12 13 14 15 16 17

As of March 1, 1966 for____months. 6 7 8 9 10 11 12 13 14 15 16 17

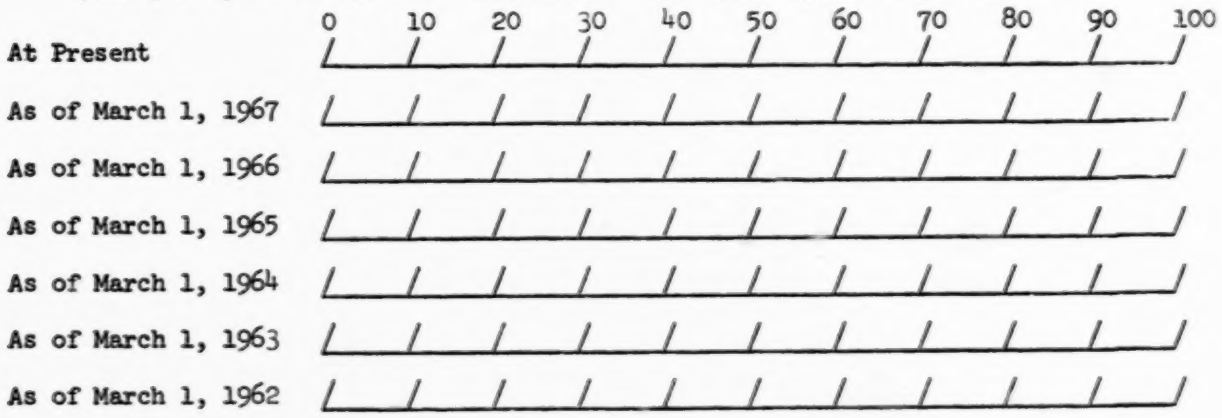
As of March 1, 1965 for____months. 6 7 8 9 10 11 12 13 14 15 16 17

As of March 1, 1964 for____months. 6 7 8 9 10 11 12 13 14 15 16 17

As of March 1, 1963 for____months. 6 7 8 9 10 11 12 13 14 15 16 17

As of March 1, 1962 for____months 6 7 8 9 10 11 12 13 14 15 16 17

Please check the appropriate point on the scale to indicate the percent of time that you spend or spent in Administrative and/or Supervisory duties.


0 10 20 30 40 50 60 70 80 90 100
At Present
As of March 1, 1967
As of March 1, 1966
As of March 1, 1965
As of March 1, 1964
As of March 1, 1963
As of March 1, 1962

## PART II
## PROFESSIONAL ACHIEVEMENTS, ASPIRATIONS AND ASSOCIATIONS

Listed below are a series of activities in which you may have participated or positions which you may have held over the course of years. Please indicate those which you have held which are directly related to VOCATIONAL AND/OR TECHNICAL EDUCATION by placing an X in the designation appropriate for that year. (Vocational and Technical-oriented activities include leadership roles in such organizations as MCLAVEPA, DECA, VICA, AVA, FFA, MIES, AVA, FFA, AND MOEA).

| AT THE LOCAL LEVEL | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 |
|---|---|---|---|---|---|---|---|
| Committee member..... | | | | | | | |
| Committee chairman (or co-chairman)..... | | | | | | | |
| Officer..... | | | | | | | |
| Attend a Vocational or Technical Conference..... | | | | | | | |
| Attend a Vocational or Technical Workshop.... | | | | | | | |
| Direct a Vocational or Technical Workshop.... | | | | | | | |
| Organize a Vocational or Technical Conference..... | | | | | | | |
| Speak at a local Vocational or Technical Conference..... | | | | | | | |
| Consult with local groups, schools, etc.. | | | | | | | |
| Others (Please Specify) _____.. | | | | | | | |
| _____.. | | | | | | | |
| _____.. | | | | | | | |

AT THE STATE LEVEL

| | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 |
|---|---|---|---|---|---|---|---|
| Committee member..... | | | | | | | |
| Committee chairman..... | | | | | | | |
| Officer..... | | | | | | | |
| Attend Technical or Vocational Conference... | | | | | | | |
| Attend Technical or Vocational Workshop..... | | | | | | | |
| Organize or direct workshop or conference... | | | | | | | |
| Speaker at workshop or conference..... | | | | | | | |
| Panel member at conference..... | | | | | | | |
| Others (Please Specify)_____ ... | | | | | | | |
| _____ ... | | | | | | | |
| _____ ... | | | | | | | |

AT THE NATIONAL LEVEL

| | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 |
|---|---|---|---|---|---|---|---|
| Committee member..... | | | | | | | |
| Committee chairman..... | | | | | | | |
| Officer..... | | | | | | | |
| Attend National Convention..... | | | | | | | |
| Panel member National Convention..... | | | | | | | |
| Speaker at a National Convention..... | | | | | | | |
| Others (Please Specify)_____... | | | | | | | |
| _____... | | | | | | | |
| _____... | | | | | | | |
| _____... | | | | | | | |

What are your long-range plans, goals, and aspirations for the future?

_____ Remain at present position and perfect my functioning at this position.

_____ Become a director of vocational education at the local level.

_____ Become a secondary school administrator (supervisor or assistant principal).

_____ Become a secondary school principal.

_____ Become a consultant for vocational education for an intermediate school district.

_____ Teach at the community college level.

_____ Teach at a college or university.

_____ Become a director of an area skill center or area program.

_____ Become a department chairman in a high school.

_____ Become dean or assistant dean of vocational-technical education in a community college.

_____ Become a president (or equivalent) of a community college.

_____ Become department head of vocational education, technical education, or practical arts in a college or university.

_____ Become consultant or supervisor of vocational education at the State level.

_____ Others (Please Explain in Full) _____

_____

_____

_____

Please indicate the approximate number of hours in your average work-week._____

Please list the degrees that you now hold._____

_____

If you have completed any work since obtaining your last degree, please indicate the total number of credit hours taken._____

## RESPONSIBILITIES RELATIVE TO FUNCTIONS PERFORMED IN PRESENT POSITION

Instructions: On this page we have listed six functions which vocational administrators may perform. Please indicate how often you perform each function with a check ( ) in the appropriate box. Then, if you perform the function, indicate at what level of responsibility you usually work, with a check in the box in the appropriate column. The levels of responsibility are defined below by showing examples of activities we've classed at the various levels. The activities shown are intended to give an overall feeling of the type of activities a person with that level of responsibility might engage in. Pick the level of responsibility which best fits what you do.

Level I -- Helps set goals and objectives of organization. Makes policy which will meet these goals. Plans structure essential to the achievement of organizational goals. Allocates personnel and financial resources. Has major responsibility concerning organization's direction.

Level II -- Implements policy be setting up procedures. May also revise procedures. Recommends policy changes. May supervise those who carry out tasks. Shares responsibility for function's success or failure.

Level III -- Participates at operational level. Carries out activities according to procedures that have been set by others. May recommend changes in procedures to supervisor. Makes few decisions. Involved in function, but with little responsibility for its success or failure.

| FUNCTIONS | How often do you perform each function? | If you do handle this function, what level of responsibility best fits what you do? I | II | III |
|---|---|---|---|---|
| STAFF PERSONNEL. Personnel staffing. Orientation. In-service training. Teacher assignment. Salary and promotions. Teacher certification. | ☐ Regularly ☐ Sometimes ☐ Seldom | ☐ | ☐ | ☐ |
| SCHOOL-COMMUNITY RELATIONS. Relationships with labor, industry, business, service clubs, governmental agencies, mass media and advisory committees. Interpretation of programs to the community. Surveys. | ☐ Regularly ☐ Sometimes ☐ Seldom | ☐ | ☐ | ☐ |
| BUSINESS AND FINANCIAL. Budget preparation. Funding. Financial reports. Accounting records. Allocation of funds. Purchasing. | ☐ Regularly ☐ Sometimes ☐ Seldom | ☐ | ☐ | ☐ |
| PROGRAM DEVELOPMENT. Program objectives Curriculums and courses. Instruction improvement. Program evaluation. Development of instructional material. Innovations, such as team teaching, programmed learning and role playing. Audio-visuals. | ☐ Regularly ☐ Sometimes ☐ Seldom | ☐ | ☐ | ☐ |
| PUPIL-PERSONNEL SERVICES. Vocational guidance services. Selection of students. Job placement. Follow-up and drop-out studies. Work permits. | ☐ Regularly ☐ Sometimes ☐ Seldom | ☐ | ☐ | ☐ |
| PHYSICAL FACILITIES. Determination of needs. Site selection. Floor space utilization. Funding. Capital equipment. | ☐ Regularly ☐ Sometimes ☐ Seldom | ☐ | ☐ | ☐ |

Listed below are a series of activities concerning vocational and educational functioning in which you may have been involved. Please check the year (or years) for which the statement is appropriate.

| I have been instrumental in: | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 |
|---|---|---|---|---|---|---|---|
| Introducing a new course at the school level..... | | | | | | | |
| Beginning several new courses at the school level..... | | | | | | | |
| Improving vocational counselling for students and adults..... | | | | | | | |
| Revising or broadening a program at the school level..... | | | | | | | |
| Introducing a new course at the school district level..... | | | | | | | |
| Obtaining new equipment/facilities for the school..... | | | | | | | |
| Writing proposals for obtaining federal, state or local funds..... | | | | | | | |
| Departmental re-organization..... | | | | | | | |
| School re-organization..... | | | | | | | |
| Designing new courses or programs.... | | | | | | | |
| Establishing new contacts with local industry for co-op programs..... | | | | | | | |
| Establishing area vocational program. | | | | | | | |
| Establishing area skill center..... | | | | | | | |
| Changing school policy concerning vocational education..... | | | | | | | |
| Extending the scope of vocational education in the community..... | | | | | | | |
| Obtaining federal or state funds for the school or school system..... | | | | | | | |
| Other (Please Explain) | | | | | | | |
| _____..... | | | | | | | |
| _____..... | | | | | | | |
| _____..... | | | | | | | |
| _____..... | | | | | | | |

## APPENDIX I

## ALL POSSIBLE PREDICTOR (INDEPENDENT) VARIABLES

1. Age
2. Degree Held
3. Number of College Years
4. Years of Experience in Schools
5. Years of Experience Outside of Schools
6. Number of Moves from 1954-1964
7. Professional Leadership Role
8. School-Community Leadership Role
* 9. Vocational-Technical Role Score
10. Rating of Teaching Experience
11. Rating of Non-teaching Experience
12. Rating of Professional-Community Participation
13. Rating from Supervisor's Reference Questionnaire
14. Combined Interviewer Rating
15. ACE Q Score (test)
16. ACE L Score (test)
17. Public Opinion Questionnaire Score (test)
*18. Agent of Change Score
19. Achievement Score (Edwards Personal Preference Schedule)
20. Deference Score (EPPS)
21. Order Score (EPPS)
22. Exhibition Score (EPPS)
23. Autonomy Score (EPPS)
24. Affiliation Score (EPPS)
25. Intraception Score (EPPS)
26. Succorance Score (EPPS)
27. Domination Score (EPPS)
28. Abasement Score (EPPS)
29. Nurturance Score (EPPS)
30. Change Score (EPPS)
31. Endurance Score (EPPS)
32. Heterosexuality Score (EPPS)
33. Aggression Score (EPPS)
34. Consistency Score (EPPS)
35. Reference Question A
36. Reference Question B
37. Reference Question C
38. Reference Question D
39. Reference Question E
40. Reference Question F
*41. Title of Rank in School System
*42. Type of School
*43. Relative Size of School
*44. Position Score (Total of Items 41, 42, and 43)
*45. Contract Salary
*46. Percent of Time Spent on Administrative or Supervisory Duties

*Obtained at time of follow-up, not at time of selection.

APPENDIX J

COMPARISON OF LEADERSHIP SCORES OF EXPERIMENTAL VS. CONTROL GROUPS USING ANALYSIS OF VARIANCE

| Training Year | Group | Mean | N | F-Ratio |
|---|---|---|---|---|
| 1964-65 | A | 53.4 | 20 | 7.27 ($p > .01$) |
| | B | 51.5 | 17 | |
| | $C_1$ | 45.3 | 18 | |
| 1965-66 | D | 53.1 | 17 | 6.53 ($p > .05$) |
| | $C_2$ | 47.1 | 15 | |
| 1966-67 | E | 51.9 | 17 | 3.36 (not significant) |
| | $C_3$ | 47.1 | 15 | |

OE 6000 (REV. 9-66)

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
OFFICE OF EDUCATION

# ERIC REPORT RESUME

(TOP)

ERIC ACCESSION NO.

CLEARINGHOUSE ACCESSION NUMBER

RESUME DATE: 8-31-68 | P.A. | T.A.

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001

TITLE

100 A State Program for the Development of Persons for Leadership Roles in the
101 Administration of Local Programs of Vocational and Technical Education—
102 Final Report
103

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601 Leadership Development Program for Vocational and Technical Education
602 Vocational and Technical Education - Leadership Development
603 Administration of Vocational and Technical Education - Leadership Development
604 Follow-up Study Evaluation Prediction
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IDENTIFIERS

607 The University of Michigan Leadership Development Program (UM/LDP)


ABSTRACT

800 This report deals with the measurement and evaluation of the results of the
801 Michigan Leadership Development Program.
802 Each year since 1964, a group of 20 men has been selected to participate in the
803 Michigan Leadership Development Program. These men were selected for the training
804 program because of their potential leadership and administrative ability for voca-
805 tional-technical education. This training program consisted of an eight-week
806 summer workshop, and a year-long internship.
807 The major objective of this research was to measure the leadership behaviors ex-
808 hibited by both program trainees (experimental groups) and comparable non-trainees
809 (control groups).
810 The secondary objective of this research was to develop an objective formula for
811 the selection of men most likely to become educational leaders.
812 To meet these two objectives it was necessary to construct an objective and
813 quantitative measure of leadership behavior. This "Leadership Score" was obtained
814 for each of the 119 subjects.
815 The results obtained showed that the groups trained in the Michigan Leadership
816 Development Program improved significantly (in the years following training) on
817 the leadership variables being measured.
818 The results obtained regarding the secondary objective showed a prediction equa-
819 tion which compared favorably with the actual selection procedure being used.
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